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DEPARTMENT OF COMMERCE

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

A. H. BALDWIN, Chief

SPECIAL AGENTS SERIES—No. 86

COTTON GOODS IN JAPAN

AND

THEIR COMPETITION ON THE
MANCHURIAN MARKET

By

W. A. GRAHAM CLARK

Commercial Agent of the Department of Commerce



WASHINGTON
GOVERNMENT PRINTING OFFICE

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CURRENCY, WEIGHTS, AND MEASURES.

Yen=100 sen=\$0.498. The value of the yen prior to 1897, when the gold standard was adopted, is given on page 11.

Rupee (Indian)=\$0.3244 $\frac{1}{3}$.

Tael (Chinese) fluctuates in value. Rates of exchange between Japan and Shanghai from 1899 to 1913 are given on page 109.

Momme=0.008267 pound.

Kin=160 momme=1.32277 pounds.

Kwan=1,000 momme=8.267 pounds.

Picul (Japanese)=100 kin=132.277 pounds.

Picul (Chinese)=133 $\frac{1}{3}$ pounds.

Shaku (ordinary measure)=10 sun=11.9305 inches.

Shaku (cloth measure)=10 sun=14.913 inches.

Tsubo=3.9538 square yards.

Cho=3,000 tsubo=2.4507 acres.

Koku=5.119 bushels.

Foot (Chinese, big)=21.3 inches.

Foot (Chinese, small)=14.4 inches.

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LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE,
BUREAU OF FOREIGN AND DOMESTIC COMMERCE,
Washington, July 15, 1914.

SIR: There is submitted herewith a report by Commercial Agent W. A. Graham Clark on the cotton-goods industry and trade of Japan, in which he reviews the history of the industry and trade from the establishment of the first spinning mill to the present time and analyzes the factors that have made the Japanese successful competitors of American manufacturers, particularly in China. Special attention is given to the methods employed by the Japanese to find a foreign market for their goods and to wages, cost of production, factory legislation, and the capitalization and profits of mills. A separate chapter is devoted to the Manchurian market, in which the Japanese have been especially successful.

Respectfully,

A. H. BALDWIN,
Chief of Bureau.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

COTTON GOODS IN JAPAN AND THEIR COMPETITION ON THE MANCHURIAN MARKET.

IMPORTATION AND CONSUMPTION OF RAW COTTON.

GENERAL CONDITIONS.

Raw cotton is by far the most important article in the import trade of Japan. For the 10 years 1901 to 1910, inclusive, the total imports into Japan amounted to \$1,948,436,825, and of this raw cotton accounted for \$473,142,906, or 24.28 per cent. Of total imports in 1911, amounting to \$255,875,241, raw cotton accounted for \$73,097,741, or 28.57 per cent; while of the \$308,258,154 imports in 1912 raw cotton accounted for \$100,010,453, or 32.44 per cent. The import trade of Japan is rapidly increasing, but the raw-cotton imports have been increasing still faster, and they tend to form a still larger proportion of the total.

In number of cotton-spinning spindles Japan ranks ninth among the nations of the world, being surpassed by the United Kingdom, the United States, Germany, Russia, France, India, Austria-Hungary, and Italy. In the total consumption of cotton, however, Japan ranks sixth, being surpassed only by the United States, the United Kingdom, Germany, India, and Russia, in the order named. In the amount of cotton consumed per spindle per year Japan ranks first, with India a poor second. In Japan the spindles are nearly all ring spindles working on coarse counts, and they are operated day and night; hence more cotton is required per spindle than in other countries. Japan is the only country that makes a regular practice of running its cotton mills day and night.

AVERAGE CONSUMPTION PER SPINDLE.

The Japan Cotton Spinners' Association reports showed 2,099,764 spindles at the end of 1910, and 2,170,796 at the end of 1911; they also showed the actual consumption of raw cotton by the mills during 1911 to have been 64,704,579 kwan, which is equivalent to 534,912,755 pounds. The daily average number of spindles in operation in 1911, as ascertained by the Japanese Government, was 1,901,290. Dividing the total cotton consumed by the average spindles in operation, which is preferable to using the total spindles listed at the end of the year, gives the actual consumption per working spindle in Japan in 1911 as 281 pounds. The amount varies, but it averages over half a bale of cotton per year per spindle, while the consumption in British India, which comes next, averages only about a quarter of a bale per spindle annually; the difference between the two is due mainly to the number of hours worked. The minimum amount of cotton required per spindle is reached in England, with some 45 pounds per year, and in Switzerland, with some 38 pounds. These countries not only work shorter hours on much finer yarns, but most of their yarns are spun on the slower-producing mule spindle. Japan has less than a third the number of

spindles there are in France, yet it consumes a larger amount of raw cotton.

The great bulk of the cotton imported into Japan is ginned, but a small amount is imported in the seed from French Indo-China, the Dutch East Indies, Siam, and China. The seed from foreign, Korean, and Japanese cotton ginned in Japan is used in local oil mills. Osaka is the principal center of this industry, and the oil mills, though small, are increasing. Besides the seed from cotton ginned in Chosen, they are importing larger amounts of cotton seed from China.

SOURCE OF IMPORTS:

The imports into Japan of ginned and unginned cotton during the calendar year 1912, according to official import statistics, were as follows:

Countries.	Unginned cotton.		Ginned cotton.	
	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
British India.....	108,600	5,432	319,813,800	108,667,807
United States.....			187,223,700	64,601,154
China.....	1,604,900	120,575	64,159,500	18,768,185
Egypt.....			11,595,100	5,935,823
French Indo-China.....	13,740,900	1,294,746	1,706,400	476,170
Dutch Indies.....	3,305,800	220,775	62,200	11,759
Kwantung Province.....			952,700	285,298
Straits Settlements.....	2,532,000	216,607	168,300	55,080
Siam.....	356,100	27,890	104,400	21,467
All other countries.....	28,600	3,436	210,000	112,000
Total.....	21,676,900	1,889,461	585,996,100	198,934,743

COMPARATIVE VALUE OF DIFFERENT COTTONS.

Three pounds of seed cotton ordinarily yield 1 pound of lint; hence, by dividing the weight of the imports of cotton in the seed by 3 and adding to the quotient the weight of the ginned cotton imported, one obtains the actual amount of lint. In the following table this has been done and the weight in kin converted to pounds. The seed ordinarily pays for the cost of ginning, so the sum of the values of the unginned and the ginned cotton may be taken as the total value of the equivalent lint. The weight of the lint, the value, and the average price per pound of all cotton imported into Japan in 1912 were, therefore, as follows:

Countries.	Quantity.		Value.	
	Pounds.	Bales of 500 pounds.	Total.	Per pound.
				<i>Cents.</i>
British India.....	423,087,985	846,176	\$54,119,273	12.79
United States.....	247,653,894	495,308	32,171,375	12.99
China.....	85,575,899	171,152	9,406,602	10.99
Egypt.....	15,337,650	30,675	2,956,040	19.27
French Indo-China.....	8,315,858	16,632	881,916	10.59
Dutch Indies.....	1,539,880	3,080	115,802	7.52
Kwantung Province.....	1,260,203	2,520	142,078	11.27
Straits Settlements.....	1,339,040	2,678	135,300	10.14
Siam.....	295,110	590	24,580	8.33
All other countries.....	290,393	581	57,487	19.79
Total.....	784,695,912	1,569,392	100,010,453	12.75

The average value of the American cotton imported in 1912 was only two-tenths of 1 cent per pound above that of the Indian. Usually the difference is much more; in 1911, for example, the American cotton averaged 15.25, the Indian 13.8, and the Chinese 11.5 cents per pound; in 1910 the American averaged 14.55, the Indian 12.3, and the Chinese 11.37 cents. The record amount taken from the United States in 1912 was due to the low price for American cotton, which dropped with the bumper crop of 1911 until the usual proportion between it and the price for Indian was lost.

STATISTICAL RECORD OF IMPORTS.

The year 1912 marks the record as to both total weight and value for cotton imported into Japan. The table following shows the imports of raw cotton, ginned and unginned, for the years 1880 to 1912, inclusive, according to official Japanese statistics:

Years.	China.		British India. ^a		United States.		All other countries.		Total	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1880.....	Kin. 1,446,156	Yen. 169,819	Kin.	Yen.	Kin.	Yen.	Kin. 15,000	Yen. 820	Kin. 1,461,156	Yen. 170,639
1881.....	1,658,481	196,721	.....	.....	.....	.....	.....	.....	1,658,481	196,721
1882.....	3,263,223	459,165	.....	.....	.....	.....	.....	.....	3,309,796	467,247
1883.....	2,106,261	247,505	.....	.....	.....	.....	46,573	8,082	2,106,261	247,505
1884.....	4,406,186	542,882	.....	.....	.....	.....	.....	.....	4,542,522	561,262
1885.....	8,105,457	750,121	131,400	17,730	.....	.....	4,936	650	9,638,417	809,073
1886.....	5,961,333	667,202	1,532,792	58,929	.....	.....	168	23	6,935,782	695,086
1887.....	8,620,379	826,429	668,034	27,497	.....	.....	6,000	330	10,652,726	913,967
1888.....	20,540,341	2,055,822	2,020,893	86,150	8,131	1,270	3,323	118	24,076,476	2,221,769
1889.....	60,588,310	5,432,922	3,273,084	137,956	63,351	12,707	199,700	15,284	64,463,365	5,668,838
1890.....	39,870,958	3,764,559	554,923	59,477	71,583	13,439	3,248,549	163,000	52,141,752	5,365,153
1891.....	45,996,016	3,697,042	7,506,321	1,114,580	1,779,022	351,876	2,985,451	134,138	80,084,113	8,199,251
1892.....	66,182,578	6,063,919	26,564,090	3,382,061	5,304,422	1,011,518	1,767,161	108,630	113,348,220	12,324,655
1893.....	71,336,385	8,622,335	36,213,191	4,691,770	9,185,290	1,473,862	1,742,645	133,104	115,831,776	16,151,570
1894.....	62,139,981	8,561,935	36,592,406	6,052,048	6,160,340	1,273,421	3,380,142	203,766	119,931,185	19,610,760
1895.....	90,768,763	14,160,302	42,354,246	7,846,589	12,056,816	2,680,671	5,685,963	521,565	155,132,728	24,822,097
1896.....	49,618,300	8,459,310	103,453,900	19,245,861	11,996,115	2,338,177	4,778,900	630,393	176,555,000	32,573,352
1897.....	51,320,700	9,635,977	135,213,700	25,730,378	18,703,900	4,252,398	8,556,200	980,638	229,864,300	43,620,214
1898.....	29,559,200	5,021,100	141,573,600	24,837,645	77,017,400	14,751,200	7,208,400	1,134,426	255,358,600	45,744,371
1899.....	25,147,600	4,517,272	222,926,900	39,308,805	85,061,700	16,476,899	14,093,400	1,907,741	347,229,600	62,210,717
1900.....	61,884,100	12,448,499	76,684,700	17,863,925	111,283,400	27,010,134	10,956,200	2,149,071	260,808,400	59,471,629
1901.....	34,388,100	6,873,187	166,742,500	38,118,831	45,843,200	12,986,749	10,942,400	2,671,595	257,916,200	60,650,362
1902.....	83,476,600	17,011,988	178,027,500	39,976,725	73,180,000	19,475,817	13,960,900	3,320,241	348,645,000	79,784,771
1903.....	75,756,900	16,156,481	170,317,300	38,588,835	39,681,700	10,910,486	19,439,400	3,862,308	305,195,300	69,518,110
1904.....	119,005,400	31,099,705	106,951,500	28,709,147	26,824,400	9,082,577	27,256,500	4,528,957	280,037,800	73,420,386
1905.....	69,903,400	16,863,387	218,484,400	53,553,379	119,693,700	35,166,304	29,029,200	5,040,113	437,110,700	110,623,183
1906.....	72,674,100	18,286,184	158,041,100	41,383,803	60,071,200	19,604,190	24,195,000	3,387,622	314,931,400	82,661,859
1907.....	88,520,500	23,465,284	218,536,300	57,574,244	87,368,400	28,723,469	29,208,900	5,878,602	423,634,100	115,641,599
1908.....	65,931,900	16,330,634	151,114,100	39,649,890	79,983,900	26,462,635	37,369,600	7,813,130	334,399,500	90,256,289
1909.....	61,205,200	16,121,082	231,772,100	61,076,162	71,504,100	23,318,450	34,060,800	7,792,094	398,542,200	108,307,788
1910.....	113,920,100	34,133,021	309,749,600	101,218,305	44,470,300	17,193,128	27,179,900	6,677,354	495,319,900	159,221,808
1911.....	74,182,400	22,514,498	242,200,900	88,069,790	73,677,600	29,238,958	23,233,500	6,939,366	413,294,400	146,782,612
1912.....	65,764,400	18,888,760	319,922,400	108,673,239	187,223,700	64,601,154	34,762,500	8,661,051	607,673,000	200,824,204

^a Includes other East Indies prior to 1889.

CHANGES IN SOURCE OF COTTON SUPPLY.

The first three cotton mills in Japan, which commenced operations in 1866, 1871, and 1872, respectively, started working with local cotton, but in the seventies they began to import small amounts from China and Korea. The first importation from India was in 1884, and the first purchase of American cotton consisted of a sample bale of 415 kin (549 pounds) imported in 1886. From the beginning of the import trade up to 1896 Chinese cotton predominated, but since then India has furnished the largest proportion of the imports, with the exception of the years 1900 and 1904, when, for causes hereinafter explained, the importation of Indian cotton was temporarily curtailed. Imports of American cotton increased steadily up to and including 1900, but a sharp increase in price that year caused a drop in the imports in 1901. Since then purchases of American cotton have fluctuated largely, according to the price at which it was offered in competition with Indian. The imports and consumption of raw cotton in 1912 reached the highest figures ever attained, favorable prices causing the purchases of American as well as Indian cotton to break the record, and the imports of American fiber were double those of the preceding year. Owing to internal troubles in China and other causes Chinese cotton did not share in this increase in demand.

On July 1, 1894, the export duty on cotton yarn was removed and in 1896 the import duty of 5 per cent on raw cotton was taken off. These two incidents were of great importance, as they aided the export trade in yarn and enabled the mills to get their raw material cheaper, thus increasing the imports of cotton and the general prosperity of the industry. The effect of booms, periods of depression, changes in the monetary standard, and the customs tariff on the import of raw cotton will be noted later.

VALUE OF JAPANESE CURRENCY.

Since 1897 Japanese money has been on a gold basis, with the yen stable at a value equivalent to \$0.498 United States currency. Before that time the value of the yen fluctuated, the values being as follows:

Years.	Value.	Years.	Value.	Years.	Value.
1868.....	\$1.031	1878.....	\$0.900	1888.....	\$0.753
1869.....	1.031	1879.....	.876	1889.....	.734
1870.....	1.031	1880.....	.893	1890.....	.874
1871.....	1.031	1881.....	.888	1891.....	.777
1872.....	1.031	1882.....	.887	1892.....	.685
1873.....	1.012	1883.....	.876	1893.....	.610
1874.....	.997	1884.....	.869	1894.....	.496
1875.....	.969	1885.....	.858	1895.....	.513
1876.....	.908	1886.....	.810	1896.....	.527
1877.....	.937	1887.....	.784		

Using these figures as a basis for conversion, the imports of raw cotton into Japan in various years have had the following value: 1880, \$142,381; 1890, \$4,689,144; 1900, \$29,616,871; 1910, \$79,292,460; 1911, \$73,097,741; 1912, \$100,010,453.

The total weight of ginned and unginned cotton increased from 1,461,156 kin (1,932,773 pounds) in 1880 to 68,971,545 pounds in 1890

and to 344,889,527 pounds in 1900; in 1910 it reached 655,194,304 pounds and in 1912 the record of 803,811,614 pounds.

MINOR SOURCES OF SUPPLY.

The following table shows the quantity and value of the imports of cotton into Japan from countries grouped in the table on page 10 as "All other countries," from 1900 to 1912:

Years.	Egypt.		Straits Settlements.		Dutch Indies.		French Indo-China.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1900.....	4,488,900	1,466,622	.....	.....	128,900	7,905	5,728,800	628,348
1901.....	4,868,500	1,883,538	.....	.....	1,341,400	99,782	4,073,900	629,987
1902.....	6,834,100	2,414,011	216,000	14,716	255,100	25,995	4,854,000	725,729
1903.....	5,660,900	2,395,117	6,000	14,700	2,153,800	144,274	8,034,400	1,100,192
1904.....	5,349,100	2,470,591	3,002,200	222,427	2,244,800	160,130	12,676,600	1,402,731
1905.....	7,249,700	2,940,222	2,601,300	192,229	6,374,900	434,607	11,098,200	1,345,065
1906.....	4,023,300	1,645,098	2,945,100	258,003	9,047,800	632,091	5,522,100	604,439
1907.....	6,293,200	3,396,978	8,485,300	633,844	6,239,000	471,574	5,762,200	875,830
1908.....	9,738,400	5,004,459	8,823,600	588,065	6,354,500	471,325	10,019,100	1,425,463
1909.....	10,281,300	5,432,654	6,691,100	496,291	6,872,800	505,500	6,350,900	906,278
1910.....	7,421,700	4,143,388	7,530,700	1,165,949	3,466,100	243,124	4,344,000	534,836
1911.....	10,044,300	5,437,500	4,678,200	433,925	3,063,300	308,847	4,789,400	622,559
1912.....	11,595,100	5,935,823	2,700,300	271,687	3,368,000	232,534	15,447,300	1,770,916

Years.	Siam.		Korea.		All others.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1900.....	598,000	44,489	5,500	245	6,100	1,462	10,956,200	2,149,071
1901.....	527,400	46,460	99,800	4,650	31,400	7,178	10,942,400	2,671,595
1902.....	310,400	28,550	1,268,100	67,840	222,200	43,400	13,960,900	3,320,241
1903.....	304,100	29,319	3,215,300	175,522	64,900	3,184	19,439,400	3,862,308
1904.....	467,700	41,723	3,512,200	229,260	3,900	2,095	27,256,500	4,528,957
1905.....	315,000	27,889	1,381,700	97,059	8,400	3,042	29,029,200	5,040,113
1906.....	1,017,300	76,580	1,491,100	116,141	148,300	55,270	24,195,000	3,387,622
1907.....	806,900	69,385	839,800	105,206	782,500	325,785	29,208,900	5,878,602
1908.....	886,900	75,821	1,547,000	247,993	100	4	37,369,600	7,813,130
1909.....	1,094,000	103,689	2,743,000	342,126	27,700	5,556	34,060,800	7,792,094
1910.....	588,200	68,378	3,729,600	468,982	99,600	52,697	27,179,900	6,677,354
1911.....	507,500	58,504	.....	.....	150,800	78,031	23,233,500	6,939,366
1912.....	460,500	49,357	.....	.....	1,191,300	400,734	34,762,500	8,661,051

In 1910 Korea was annexed to Japan and it is now officially designated as Chosen. Imports from Chosen to the mainland of Japan were not included in the official totals for 1911 and 1912 and the items in the foregoing table were therefore left blank. Supplementary statistics show that the imports of unginned cotton from Chosen into Japan in 1911 amounted to 344,200 kin, valued at 30,767 yen, and of ginned cotton, 1,208,400 kin, valued at 289,338 yen. In 1912 the imports of unginned cotton from Chosen were 930,400 kin, valued at 86,412 yen, and of ginned cotton, 1,373,300 kin, valued at 337,383 yen.

JAPANESE COTTON.

With the advent of better cotton from abroad the cultivation of cotton in Japan began to decline and to-day the home crop is negligible. This is shown by statistics of the Japanese Department of Agriculture and Commerce, which give the area in chō and the production in kwan of seed cotton. In the table following I have con-

verted these terms into acres and pounds, and then obtained the equivalent production of lint in bales of 500 pounds at the ratio of 1 pound of lint from 3 pounds of seed cotton.

Years.	Area.		Production of unginned cotton.		Production of ginned cotton, in bales.
	Chō.	Acres.	Kwan.	Pounds.	
1884.....	96,319	235,982	15,539,243	128,462,922	85,642
1887.....	98,479	241,274	22,388,590	185,086,474	123,391
1892.....	71,432	175,008	12,584,822	104,038,723	69,359
1894.....	60,564	148,402	12,572,971	103,940,751	69,177
1895.....	55,541	136,075	10,488,569	86,709,000	57,806
1896.....	51,043	125,055	7,422,061	61,358,178	40,905
1897.....	44,444	108,888	7,304,253	60,384,260	40,256
1898.....	40,288	98,706	7,280,530	60,188,142	40,125
1899.....	33,773	82,744	5,231,955	43,252,572	28,835
1900.....	28,262	69,242	4,894,322	40,461,360	26,974
1901.....	24,121	59,096	4,468,581	36,941,759	24,628
1902.....	20,700	50,715	3,322,047	27,463,363	18,309
1903.....	15,547	38,090	2,950,717	24,393,577	16,262
1904.....	12,870	31,532	2,820,673	23,318,504	15,546
1905.....	12,204	29,900	2,145,625	17,737,882	11,825
1906.....	9,666	23,682	1,602,447	13,247,429	8,832
1907.....	7,391	18,108	1,421,537	11,751,846	7,835
1908.....	5,279	12,934	1,116,592	9,230,866	6,155
1909.....	4,006	9,815	976,518	8,072,854	5,382
1910.....	3,400	8,330	721,281	5,962,830	3,975
1911.....	2,800	6,860	731,054	6,043,623	4,029

PRESENT PRODUCTION SMALL.

The area in cotton has decreased from 241,274 acres in 1887 to 6,860 acres in 1911, while the production of lint has decreased from the maximum, so far as recorded, of 123,391 bales in 1887 to only 4,029 bales in 1911. The home production of cotton was possibly larger in the past, as for centuries there has been a considerable amount of hand spinning and weaving of cotton in Japan, but there are no accurate records prior to 1884.

Cotton growing was originally introduced into Japan from China. The local cotton is similar in its characteristics to Chinese, but usually it is slightly harsher, coarser, and shorter-stapled, and not fit for counts much above 12s. The first cotton mills in Japan used Japanese cotton, but, the quantity as well as the quality being deficient, the importation of foreign cotton was started and to-day practically no Japanese cotton is used by the mills. The few thousand bales raised are used locally; some is spun and woven by hand and some is used for wadding quilts, etc.

The figures for 1887 show the largest areas under cotton in the Provinces of Aichi, Osaka, Ibaraki, Okayama, Hyogo, and Hiroshima, in the order stated. The 1911 figures show the largest cotton areas in Tottori, Niigata, Ibaraki, Hiroshima, Chiba, Shimane, and Saga, in the order named. The 1911 figures show that cotton was raised in 41 different Provinces, but some of these had less than a dozen acres to their credit, the total for the whole country being only 6,860 acres.

LAND NEEDED FOR FOOD CROPS—EXPERIMENT WORK.

The total area of Japan is small, and the area fit for cultivation is still smaller, so that the arable land is needed for rice and other crops to supply subsistence for the rapidly increasing millions. Even with cheap labor the cost of raising cotton in the small patches in which

land is cultivated in Japan is high and food crops pay better; hence there is no prospect of Japan ever raising its own supply, certainly not in Japan proper.

In recent years the Japanese have been studying the possibilities of raising cotton in their possessions in Chosen and Formosa. In Chosen the local cotton was found to be harsh and unfit for use except on the coarsest work, so they have experimented with American Upland and have had some success, though the production is still very small. The shorter growing season will probably result in a steady deterioration in staple unless the American seed is renewed every year. In Formosa the climate would seem to be better adapted to cotton, but sugar and other crops are usually considered to pay better, and little practical work is being done to establish cotton growing.

CHINESE COTTON.

When Japanese mills began to increase and local cotton no longer sufficed for their needs, China was naturally the first country to which they looked for a supply. The importation of Chinese cotton gradually increased from its beginning in the seventies up to 1890, when the severe trade depression under which Japanese mills were struggling for existence caused a sudden curtailment in imports. During the next five years the imports again increased steadily, but the price of the Chinese fiber was rising with the increasing demand from mills established in China; moreover, the Chinese cotton was badly ginned and heavily watered, besides being suitable for only low counts. Having established direct connections with India and having obtained lower freight rates, the Japanese soon turned to the better-grade Indian fiber, and from 1896 on they have relied chiefly upon Indian instead of Chinese cotton. Only once since, in 1904, has China ever led in the imports, and that was due to the excessively high price of American cotton, with a sympathetic rise in Indian, during the time of the Sully operations. In 1910, when American cotton again rose beyond a figure at which it could be imported profitably, while the Chinese was reasonable in price, there was a large increase in the imports from China, but imports from India also increased. The purchases of both were larger than the actual requirements, and imports decreased the next year, while in 1912 the receipts of Chinese cotton were still smaller. Though the disturbed conditions in China following the change in government have had much to do with the smaller amount of Chinese cotton used, the Japanese mills are making yarns of better grade as well as the higher counts, and with the increased consumption in Chinese mills it is probable that the amount of Chinese cotton used in Japan will continue to decrease. Part of the Chinese cotton now imported is used for wadding and in home work outside the mills.

EFFECT OF CHINESE PRACTICE OF WATERING COTTON.

One factor that led the Japanese to curtail their use of Chinese cotton, aside from the fact that it is fit for only the lower grades of yarns, was the extent to which it was watered. By 1890 the mills had suffered so much by reason of the loss in weight and quality due to the practice of adding fictitious weight by pouring hot water over

the cotton that the spinners' association appointed a special committee to seek a remedy for the trouble, but they obtained no satisfaction. The practice grew in spite of protests and reached a maximum in 1895, when it was found that the cotton had been heavily watered to compensate the Chinese shippers for the rise in price that had taken place after the Japanese had placed their contracts during July and August at low prices. Pressure was brought to bear on the taotai at Shanghai and he used his official efforts to stop the practice. Further, the Japan Cotton Spinners' Association took drastic steps to stop their losses. They decided that from August 1, 1896, they would buy from no dealer who had not been approved and accepted as an associate member of the association. Further, they established at the cotton ports testing houses and refused to buy any Chinese cotton until a certain percentage of each lot had been tested for moisture and either marked as passed or an appropriate allowance made for the excess moisture contained. As a result the practice of watering was lessened, but in the meantime the mills had found Indian cotton better suited to their general needs, and the use of Chinese cotton tended gradually to decline.

EXPORTS FROM CHINA TO JAPAN.

According to statistics of the Imperial Maritime Customs of China, the total exports of raw cotton from China in the last few years have been as follows:

Years.	Quantity.		Value.	
	Piculs.	Pounds.	Haikwan taels.	United States currency.
1907.....	988,055	131,740,666	16,959,737	\$13,398,191
1908.....	613,509	81,801,200	10,345,205	6,724,383
1909.....	633,687	84,491,600	14,452,021	9,104,773
1910.....	1,247,304	164,973,867	28,141,234	18,573,214
1911.....	877,744	117,032,533	21,404,115	13,912,675
1912.....	805,711	107,428,133	17,021,093	12,595,609

The Chinese picul is $133\frac{1}{3}$ pounds, while, according to the Chinese customs, the Haikwan tael in these six years has been equal to 79, 65, 63, 66, 65, and 74 cents, respectively.

Excepting comparatively small shipments to Hongkong and various foreign countries, the great bulk of the Chinese cotton exported goes to Japan, and the fluctuations in the exports are governed largely by the amount of Chinese cotton required by that country.

CHARACTERISTICS OF CHINESE COTTON.

Cotton is grown more or less all over China, but most of it is produced in the Provinces drained by the Yangtze, especially in Chekiang, Kiangsu, Hupeh, and Honan. In recent years there has been a considerable increase of the small acreage in the north, in the adjoining sections of Shantung and Chihli Provinces; exports from this section go through Tientsin, and most of the cotton is unginned. In China cotton is grown mainly in small patches scattered over large

areas devoted to rice and other food crops, and there are no accurate statistics as to production.

Chinese cotton is white but harsh and mostly $\frac{5}{8}$ to $\frac{3}{4}$ inch staple; but the staple and quality vary considerably in different sections. Some of the best, especially now that an increasing amount is being raised from American seed, is long enough to mix with American Upland. In Japan the ordinary Chinese cotton is not considered fit for counts above 18s, while Broach and other Indian cottons can be used up to 30s; however, the Chinese is usually much lower in price. Most of the Chinese cotton imported is used to mix with Indian for very coarse counts; the better grade is used to mix with American as well as Indian for somewhat higher counts.

The Japanese designate the principal qualities of Chinese cotton as follows: (1) Tungchow, (2) Peishi, (3) Nansi, (4) Hankow, (5) Tientsin. The Tungchow is the best and is stated to equal the Indian Tinnevelly. Peishi means "north market" and refers to cotton bought at the cotton market lying within the foreign concession at Shanghai, while Nansi refers to cotton bought at the native market outside the concession. The north market is controlled chiefly by foreign shippers and quotations are in Mexican dollars. The south market is more in the hands of the natives, quotations usually being in copper cash, and the cotton handled in this way by the natives brings a lower price, as it is usually of the lower grades and is ginned in more primitive fashion.

Shanghai is the great market for Chinese cotton, and most of that bought by Japan is shipped from this port; smaller amounts also go direct from Hankow and Tientsin. On the slow cargo boats cotton usually requires three or four days between Shanghai and Kobe, and the freight rate (November, 1913) averages about 40 sen per picul, say, \$3.34 per long ton, but the rate varies according to the demand and supply for cargo space.

In the Yangtze section picking starts in September and most of the exports arrive in Japan during the last half of the year, chiefly in November and December. American and Indian cotton arrives in the first half of the year.

PACKING METHODS—CHIEF JAPANESE IMPORTERS.

The Japan Cotton Merchants' Union circulars list four sizes of Chinese cotton bales imported into Japan, viz, pressed, large, medium, and small.

The pressed bales are excellently packed and weigh uniformly 3 piculs, or 400 pounds, each and measure about 30 by 24 by 20 inches. They are completely covered with a good grade of burlap weighing some 7 ounces to the yard, and one steel tie is wrapped around the bale twelve times and the end tucked under. These bales are of the same weight as the Indian, but are smaller and more nearly square in shape.

The large bales are covered with coarse cotton cloth sewn together at the ends and sides. The bale is not compressed but forms a rather loose package some 5 feet long, 30 inches wide, and 24 inches thick, tied lengthwise and crosswise with roughly twisted cordage. They usually weigh about 240 pounds.

The medium bales are covered with heavy gunny sacking tied round with rattan, the ends being tucked under. They are about 40 by 30 by 20 inches in size and weigh about 170 pounds each.

The small bales vary in weight from 100 to 150 pounds, some being nearly square in shape and covered with cotton cloth tied with rough cordage, and others in the shape of long pillow tubes of cotton cloth sewn at the ends and without ropes or ties.

While Chinese cotton arrives in bales and packages of various kinds and shapes, the pressed bales are put up in even better style than those from India and Egypt and some are further protected by having a layer of flat-woven matting under the burlap and ties.

The Nippon Menkwa Kaisha is the largest importer of Chinese cotton, smaller amounts being handled by the Mitsui Bussan Kaisha, Okura & Co., Handa Menko, Yung Ta Tu, Tung Yunan Tai, and others. The import trade is entirely in the hands of Japanese and Chinese, with the former predominating. Over half of the Chinese cotton is landed at Kobe and about a fourth at Yokohama, with smaller amounts at Nagasaki, Osaka, Yokkaichi, and Moji.

INDIAN COTTON.

According to the statistics of the Indian Government, the exports of raw cotton from India to various countries for the fiscal years ended March 31 have been as follows, in bales of 400 pounds:

Countries.	1908	1909	1910	1911	1912	1913
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Japan.....	628,499	623,405	924,945	798,687	984,102	1,005,695
Germany.....	539,535	330,266	374,677	389,580	249,344	266,056
Belgium.....	335,519	254,850	300,542	306,738	216,850	242,005
Italy.....	298,093	238,653	264,193	308,099	190,476	163,435
Austria-Hungary.....	175,193	106,997	194,429	190,887	132,042	111,007
France.....	156,206	109,223	115,911	108,525	81,749	91,775
United Kingdom.....	122,791	99,650	144,950	159,016	117,043	85,553
China and Hongkong.....	38,530	61,637	96,796	44,643	25,232	55,096
Spain.....	58,287	47,180	55,199	88,900	35,788	24,346
All other countries.....	44,714	31,694	39,410	37,117	19,360	20,735
Total.....	2,397,367	1,903,555	2,511,052	2,432,192	2,051,986	2,065,703

POSITION OF JAPAN IN INDIAN MARKET.

The Indian statistics are given to show the predominant position of the Japanese cotton buyers on the Indian market. Japan's purchases have been increasing so strongly that they appear to be crowding European countries off the market. For instance, in the fiscal year ended March 31, 1908, Japan took only 26.2 per cent of the exports of cotton from India; its share increased to 32.7 per cent in 1909, 36.8 per cent in 1910, 32.8 per cent in 1911, 47.9 per cent in 1912, 48.7 per cent in 1913. Japan now takes nearly as much Indian cotton as all other countries combined, and its effect on the raw-cotton market of India is second only to that of the Indian mills themselves. Moreover, as the Japanese demand is increasing faster than the cotton production in India, Japan in the future will probably require a still larger proportion of the Indian crop.

The general trade of Japan with India has been increasing, but raw cotton regularly constitutes some 90 per cent of the total imports from India, while the principal articles that Japan ships to India consist of silk manufactures and cotton hosiery, shipments of which have greatly increased in the last 10 years.

EFFECT OF SHIPPING ARRANGEMENTS ON JAPANESE IMPORTS.

Cotton is brought from India to Japan by four steamship lines; the Nippon Yusen Kaisha, the Peninsular & Oriental Steam Navigation Co., the Austrian Lloyd, and the Navigazione Italiana.

Most of the cotton imported from India now comes by the Nippon Yusen Kaisha, which maintains a regular fortnightly service between Kobe, the Straits, and Bombay, with six steamers of 5,000 to 6,000 tons. The importation of Indian cotton started in 1884 with 173,283 pounds, say, 433 bales of 400 pounds each. By 1890 this had risen to 24,823 and by 1893 to 121,008 bales. The Japanese mills had found that they could neither hold their home trade in cotton yarns nor increase their exports while continuing to use as harsh and low grade a raw material as Chinese cotton; moreover, they had suffered considerable loss through watering of cotton by the Chinese, their practice of mixing old and new crops and cottons of different qualities from various sections, and poor ginning. Indian cotton was much better suited to the needs of the Japanese mills and was essential if they wished to make yarns of somewhat higher count and better quality, so they became anxious to displace Chinese cotton with Indian. After negotiations between Tata Sons & Co., cotton merchants of Bombay, the Japan Cotton Spinners' Association, and the Nippon Yusen Kaisha, the last named in 1893 started a line of steamers to carry cotton from Bombay to Japan and reduced the freight rate so much below that then prevailing that the import of Indian cotton was greatly stimulated. (See p. 34.) Indian cotton soon took the premier place in the cotton-import trade of Japan and has held it ever since.

The Peninsular & Oriental ships go by way of Shanghai and take longer than those of the Nippon Yusen Kaisha. The Austrian Lloyd ships, which are slower, go direct from Hongkong to Yokohama, so cotton for Kobe by this line takes longer than by the Peninsular & Oriental. The steamers of the Navigazione Italiana transship all cotton at Hongkong, usually to steamers of the North German Lloyd, and with this delay Bombay cotton by this route usually takes some 50 days to arrive at Kobe.

It is usually figured that Indian cotton requires an average of some 40 days in transit, the time varying according to the line by which shipped, and as Indian cotton does not begin to arrive at shipping ports in quantities until November most of the shipments arrive in Japan during the first half of the year. The largest importers are the Nippon Menkwa Kaisha, Mitsui Bussan Kaisha, and Gosho Goshi Kaisha, and the cotton is usually bought on orders from the mills. The rainy season starts in India in June, and as the spinners would then lose on account of the damp condition of the cotton they prefer not to buy during the rainy season; what is bought then is mainly cotton that has been consigned by Indian firms such as Tata Sons & Co.

About three-fourths of the Indian cotton is usually landed at Kobe; smaller quantities are received at Osaka, Yokkaichi, Yokohama, and Moji.

COTTON TRADE STIMULATES GENERAL COMMERCE WITH INDIA.

The result of the invasion of the Nippon Yusen Kaisha into the Bombay trade has been to stimulate not only the importation of raw cotton from India, but also the exportation of silk goods, cotton hosiery, metals, matches, and apparel, and this has been further aided by the inauguration of another fortnightly line of ships between Japan and Calcutta. This last service was started by the Nippon Yusen Kaisha in 1911 and has had strong opposition from the British India Steam Navigation Co. A small amount of cotton is brought by this and other lines from Calcutta and Rangoon, but the great bulk of the Indian cotton comes from Bombay. The Indian cotton taken by the Japanese is chiefly of the better grades, especially Broach and Hinganghat, as the mills can get all the coarser cotton they need for the lowest counts nearer by in Shanghai.

Indian cotton now constitutes from one-half to two-thirds of all cotton used in Japanese cotton mills. Since 1896, when it displaced Chinese from the first place, Indian cotton has led in the consumption, though in 1900 the failure of the Indian crop resulted in a larger importation of American, and in 1904 the exceedingly high price of both American and Indian led to a larger importation of Chinese. These two years were exceptional, however, and even in those years Indian cotton constituted the largest proportion of the cotton actually consumed by the mills.

AMERICAN COTTON.

The use of American cotton in Japan was begun with a sample bale in 1886. Imports increased steadily until they amounted in 1900 to the equivalent of 296,756 bales of 500 pounds each, according to the Japanese import statistics. In that year the consumption of American cotton in Japanese mills reached its record proportion of 41.17 per cent of all cotton worked, this percentage being only slightly exceeded by that of the Indian. These imports were mostly of cotton bought in 1899, and with the great rise in price in the United States in 1900 the imports of American cotton fell off sharply. Since then the purchases have fluctuated with the price. Japanese mills prefer to use American cotton to make yarns of better grade and also to make the higher count yarns, but in many years American cotton is so high in price that, with the intermediate charges added, the spinners have to restrict their purchases. The fluctuations in the imports of American cotton therefore are not due to variations in the Japanese consumption but to the rise or fall in the price. The Japanese took advantage of the low prices in the first part of 1905 to increase their imports of American, but with the rise in prices imports again fell off and remained small until the low prices for the record crop of 1911-12 enabled them again to take larger amounts. During 1912 their purchases of American cotton greatly exceeded those of any previous year, and their consumption of American cotton amounted to slightly over one-third of the total.

RECORD OF AMERICAN EXPORTS TO JAPAN.

The first exports of cotton to Japan recorded in the American export statistics were in 1891. American figures for fiscal years ended June 30 show the exports of cotton to Japan in 500-pound bales to have been as follows:

Years.	Bales	Years.	Bales.	Years.	Bales.
1891.....	4,813	1899.....	182,734	1907.....	262,283
1892.....	3,149	1900.....	323,202	1908.....	200,396
1893.....	1,586	1901.....	78,558	1909.....	208,943
1894.....	9,603	1902.....	178,505	1910.....	95,000
1895.....	22,130	1903.....	152,826	1911.....	156,724
1896.....	40,388	1904.....	45,870	1912.....	458,097
1897.....	64,022	1905.....	336,575	1913.....	374,802
1898.....	224,214	1906.....	147,269		

For the fiscal year ended June 30, 1912, the American figures show exports to Japan of 240,467,144 pounds, valued at \$25,182,092, which gives an average value per pound of 10.47 cents. For the calendar year ended December 31, 1912, the Japanese import statistics show the arrivals of American cotton to have been 187,223,700 kin (247,653,894 pounds), valued at 64,601,154 yen (\$32,171,375), which gives an average value at the port in Japan of 34.50 yen per 100 kin, or 13 cents per pound.

SHIPPING ROUTES FROM THE UNITED STATES.

The bulk of the American cotton used in Japan is from Texas and Oklahoma and most of it is routed via San Francisco. There are three usual routes, via San Francisco, Puget Sound, and the Suez Canal.

The San Francisco is the main route and the bulk of the cotton from Texas, with some from Louisiana and Mississippi, is carried over the Sante Fe or the Southern Pacific Railroad to San Francisco and thence to Japan by the Pacific Mail Steamship Co. or the Toyo Kisen Kaisha. This route is most favored by the importers as being the quickest and requiring the least handling, but the ships on this route are for passengers rather than cargo, and this may cause cotton to lie over for some time at the port awaiting cargo space. During the heavy exportation in 1912, for instance, the Pacific Mail had to charter steamers specially to deal with its surplus cotton consignments. In the early part of the season cotton has been known to come through from Texas to Kobe in 30 days, but as a rule it takes much longer, from 2 to as many as 5 months in some cases. One of the chief importing firms, Mitsui Bussan Kaisha, states that it usually has to allow about 80 days for cotton from Houston to Kobe. The present (December, 1913) through rate from Texas common points to Kobe is 1.35 cents per pound, of which the railroads take 0.95 cent and the steamships 0.40 cent.

Cotton from northeastern Texas and from Oklahoma, as well as some from Little Rock and Memphis, is carried by various lines to St. Paul and thence to Seattle, Tacoma, or Port Townsend by the Great Northern Railroad or the Northern Pacific Railroad. From

Puget Sound ports it goes to Japan by the Osaka Shosen Kaisha, the Nippon Yusen Kaisha, or the Great Northern Steamship Co. The last named has but one boat, the *Minnesota*, which, however, is one of the largest on the Pacific. The Great Northern and the Nippon Yusen start from Seattle, while the Osaka Shosen starts from Tacoma.

The cotton shipped to Japan from New York, or direct from southern ports, such as Charleston, Savannah, Pensacola, and New Orleans, goes across the Atlantic, through the Suez Canal, around southern Asia, and up to Japan. This, of course, is much the longest route and takes from 3 to 6 months; it is therefore little used, though it is recorded that during the heavy shipments of 1912, when the Pacific ports were congested, some cotton by this route actually arrived as quickly and cheaply as some of that shipped overland.

In addition, there have been shipments in some seasons north to St. Paul, thence via the Canadian Pacific Railway to Vancouver and thence by the Canadian Pacific Steamship Co. to Japan. The Canadian Pacific, however, has only one steamer adapted to carrying cotton, and none is now being shipped this way. The ocean rate from Vancouver, as that from Puget Sound ports, is the same as the rate from San Francisco.

SHIPMENTS DURING LAST TWO SEASONS.

According to the figures of the New York Chronicle, as shown in the monthly reports of the Japan Cotton Merchants' Union, shipments of American cotton during the last two seasons have been routed as follows:

Months.	San Francisco.	Seattle.	Port Townsend.	Suez Canal.	Total.
1911-12 SEASON.					
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
September.....		850			850
October.....	19,643	4,291	657		24,591
November.....	21,762	14,829	3,050	3,740	43,381
December.....	32,475	20,437	8,057	33,311	94,280
January.....	44,058	26,341	2,878	9,607	82,884
February.....	32,397	2,425	14,211	15,275	64,308
March.....	35,351	17,769	18,347	651	72,118
April.....	8,396	22,359	2,084	7,442	40,281
May.....	5,470	13,036		525	19,031
June.....	445	4,831		1,500	6,776
July.....		12			12
August.....					
Total.....	199,997	127,180	49,284	72,051	448,512
1912-13 SEASON.					
September.....	7,395				7,395
October.....	18,814		6,948		25,762
November.....	35,647		9,037		44,684
December.....	25,982		21,385		47,367
January.....	40,322		14,967		55,289
February.....	29,236		13,908	2,500	45,644
March.....	21,583		9,186	3,000	33,769
April.....	42,207		15,419	1,284	58,910
May.....	39,174		8,359	3,900	51,433
June.....	3,081		1,219	3,700	8,000
July.....	406		300		706
August.....				1,000	1,000
Total.....	263,847		100,728	15,384	379,959

Of the American cotton shipments to Japan during the 1911-12 season, 44.6 per cent went via San Francisco, 39.3 per cent via Puget Sound, and 16.1 per cent via Suez; during the 1912-13 season, 69.4 per cent went via San Francisco, 26.5 per cent via Puget Sound, and 4.1 per cent via Suez. The largest amounts are carried by the steamers of the Pacific Mail and the next largest amounts by the steamers of the Toyo Kisen, the Osaka Shosen, and the Nippon Yusen, respectively.

COMPLAINTS AS TO DELAY AND UNDERWEIGHT.

With few exceptions American cotton, by whatever route shipped, takes a long time to arrive, usually 60 to 150 days. The importers complain of delay, which is due mainly to the long period the cotton remains at Pacific ports before it is taken aboard, but they complain still more as to the uncertainty as to date of arrival. When an importer contracts to deliver to a mill a certain amount of American cotton monthly, and he can not tell within three months when his shipments may arrive, it can be readily seen that the business can not be very satisfactory, not to mention the question of interest on the money involved.

The greatest complaint as to American cotton, however, is that it rarely comes up to weight, and importers are compelled to make claims on almost every shipment. It is a source of wonder to foreign and native cotton dealers in Japan that the American shippers can afford to pay these claims and continue to do business. Some Japanese importers seem to think that American shippers figure on the cotton gaining heavily in moisture during the long sea trip and so not only add to their invoices the 1 per cent franchise allowance, but also add 1 or 2 per cent more. Others say that some loss is possibly occasioned by wastage and theft en route, owing to the poor packing, with gaping sample holes in the sides and end covers torn off. This, however, can not account for such heavy and uniform losses in weight, and the larger importers say that it must be due to evaporation en route. Some cotton before being weighed for shipment has stood in warehouses with concrete floors and has taken on a temporary weight that soon disappears. Even when cotton is shipped without this added weight the trip is such a long one that, as most of the cotton arrives in Japan during the winter when the climate is usually dry, there is necessarily a loss of weight by evaporation. In the early part of the season, before heavy shipments have begun, cotton has been known to arrive in Kobe from Texas in 30 days, and in such cases it is noted that the weights are all right. As a rule, however, the longer the delay en route the heavier the loss in weight. The official sworn cotton weigher at Kobe states that American cotton, year in and year out, averages 1,000 pounds loss per 100 bales; losses of 1,000 to 1,500 pounds are very common, while last season a loss of 2,686 pounds on a 100-bale shipment was recorded. This great discrepancy between the invoiced weights and the weights at port of arrival, ranging from an average of 2 per cent to over 5 per cent in exceptional cases, is hard to explain even on the theory of loss by evaporation, and it is a matter that American shippers should investigate thoroughly.

IMPORT METHODS—QUALITIES USED—MARKET QUOTATIONS.

Cotton dealers handling American cotton are chiefly Japanese, and most of the cotton imported by foreign firms goes through the hands of local dealers before reaching the mills, as the factories themselves do not import cotton direct and buy only from cotton dealers who are members of the Japan Cotton Merchants' Union. Usually cotton is ordered by the importers on orders of the mills. The Nippon Menkwa Kaisha (the Japan Cotton Trading Co.) is the largest importer of American cotton, while smaller amounts are taken by Mitsui Bussan Kaisha, Yokohama Kiito Gomei Kaisha, Goshō Goshi Kaisha, M. Raspe & Co., Tata Sons & Co., K. Yoshikawa, and Naigai Wata Kaisha.

Owing to the time taken in transit, most of the American shipments, like those from India, arrive during the first half of the year.

The bulk of the American cotton imported into Japan is middling and good middling from Texas and Oklahoma; but the percentage of good middling has increased in recent years. This cotton averages about $\frac{7}{8}$ inch in length and is suitable for mixing with Broach and similar good Indian cottons and with Saigon or the Chinese Tungchow cottons, which are cheaper and have less luster and elasticity, but which are not materially different in staple. An importer estimates that the American staple cottons included in the American total last season, such as Mississippi benders of $1\frac{1}{8}$ to $1\frac{3}{16}$ inch staple, amounted to some 40,000 bales. These are used straight for making shirting yarns from 30s to 42s. There is no import of Sea Island. American invoices are usually stated in terms of shillings per Japanese picul.

On the Japanese market cotton is quoted in terms of yen per 100 kin, a yen being 49.8 cents and 100 kin, or a Japanese picul, 132.277 pounds. An importer states that if cotton is quoted in the United States at 10 cents per pound, the price to the mill, after allowing for freight and insurance, landing and coolie hire, importer's profits, and expenses, would be ordinarily about 34 yen per 100 kin (12.80 cents per pound). Similarly, a $12\frac{1}{2}$ -cent price in the United States would mean 41 yen per 100 kin (15.43 cents per pound) at the mill in Japan. A 15-cent price in the United States would mean about 48 yen per 100 kin (18.07 cents per pound) at the mill in Japan, but at this figure there would be no business, as the mills could not afford to use it.

About two-thirds of the American cotton is usually landed at Kobe and about a fourth at Yokohama; small amounts also go to Moji and Nagasaki.

If, as expected, cotton can be transported by the Panama Canal quicker or more cheaply, this should tend to increase shipments to Japan, as the Japanese mills wish to increase their takings of American cotton as against Indian and Chinese, but are deterred by the price, in which the intermediate handling charges are at present a considerable factor.

EGYPTIAN COTTON.

The importation of Egyptian cotton was started in 1893 with 4,700 kwan (38,856 pounds), following the establishment of the Nippon Boseki to make fine yarns. From this the imports of Egyptian have

increased until in 1912 they amounted to 15,337,650 pounds, valued at \$2,956,040.

According to Egyptian official statistics the exports of cotton from that country in the calendar year 1913 were distributed as follows (cantar = 99.05 pounds):

Countries.	Quantity.	Value.	Countries.	Quantity.	Value.
	<i>Cantars.</i>			<i>Cantars.</i>	
United Kingdom.....	2,996,404	\$54,355,403	Italy.....	265,927	\$4,801,843
United States.....	673,523	12,073,277	Japan.....	179,461	3,239,894
Germany.....	665,101	12,011,356	Spain.....	159,635	2,878,170
France.....	656,242	11,894,781	All other countries.....	72,433	1,271,188
Russia.....	599,900	10,828,126			
Austria-Hungary.....	432,051	7,802,051			
Switzerland.....	274,009	4,955,209	Total.....	6,972,686	126,111,298

According to the foregoing, Japan ranks ninth in the consumption of Egyptian cotton. Although the Japanese mills are and will continue to be occupied mainly with low counts, the production of fine counts in a few mills is increasing, and the industry will yearly require larger amounts of Egyptian cotton. At present seven Japanese mills make counts high enough to necessitate Egyptian cotton, the chief ones being the Nippon, the Fuji Gas, the Kanegafuchi, and the Tokyo.

Egyptian cotton is imported into Japan by English and Japanese firms, the largest importers being Tata Sons & Co. and Mitsui Bussan Kaisha. The Alexandria firms shipping Egyptian cotton to Japan in largest amounts are Choremi Benachi Co. and R. & O. Lindemann.

OTHER COTTON.

The cotton from Annam and Saigon in French Indo-China is mostly of good quality and staple, and it is usually used for mixing with the best of that from India. Part of the Indo-China production is used in home industries or in the mills of that country, and with fluctuating crops the amount taken by Japan varies largely. It forms a decreasing percentage of the total consumption in Japan, and is now less than 1 per cent.

The bulk of the cotton from Siam and the Dutch East Indies imported into Japan is cheap but inferior, and its consumption is negligible. The purchases from Kwantung Province tend to increase, but the amount used is also negligible. At one time the Japanese mills hoped to secure a good supply from Siam and were desirous of doing so, as this country was not only comparatively near but also assuredly neutral in case of war, but in neither quality nor quantity has the cotton fulfilled expectations.

From the foregoing data as to the various cottons imported into Japan it is seen that there have been four periods in the trade. Until the middle of 1880 Japanese cotton was predominant, and this is termed the Japanese cotton period. Then Chinese cotton largely displaced the local product, and from 1880 to 1889 was the Chinese cotton period. Then Indian cotton imports began to increase, and from 1890 to 1895 was a Chinese-Indian cotton period. In 1894,

for instance, these two cottons totaled 86.3 per cent of the total mill consumption. Since 1895 has followed what might be called the Indian-American cotton period, for the mill consumption of Chinese cotton has decreased until in 1912 Indian and American cotton together accounted for no less than 91.53 of the total imports used in the mills.

The great fluctuations in imports of the various kinds are due to the increase or decrease in purchases as determined by the relative prices at which the various cottons are offered. The mills buy where they can get cotton cheapest, and by mixing can maintain very nearly their usual quality of the coarse counts on which most of them work. For this reason it is impossible to judge from the imports of preceding years the amount of any one cotton that will be taken in a year.

METHOD OF PURCHASING.

That the Japanese mills are not dependent on any one cotton, as are mills making finer counts, and can vary their proportions of several cottons, and hence in a measure avoid losses due to exceptionally high prices for any one kind, is a factor very much in their favor. An adverse factor, however, is that they are not able to buy from stock. In Lancashire a mill can order from stock at Liverpool and receive the cotton within 24 hours after the bargain is closed. In Japan the cotton dealers order very little cotton except on direct orders from the mills, and the latter therefore have to wait from 2 to 3 or more, sometimes 5, months before they get the cotton, and during this time they are unable to take advantage of any decline in the market.

CONTRACT BETWEEN MERCHANTS AND SPINNERS.

The mills do not import themselves, but buy from local cotton dealers, most of whom are Japanese and members of the Japan Cotton Merchants' Union. The following is a translation of the contract drawn up between the two associations and used between the mills and the dealers:

In buying and selling cotton the following regulations shall be binding on both parties:

ARTICLE 1. One of the parties to the contract shall send a written offer stating kind, quality, price, quantity, the day and place of payment, the time of shipment, or the day and place of delivery, and his wish to buy or sell as the case may be. If the offer is accepted the other party to the contract shall send back a written acceptance stating the same particulars.

ART. 2. Where the contract stipulates for payment after delivery, the seller or sellers may insist that a promissory note be given at the time of delivery of the goods. If necessary, the seller or sellers may also insist on reasonable security from the buyer or buyers.

ART. 3. At the due date of delivery or after the arrival of goods, if the seller or sellers do not deliver all the goods or a portion thereof, or if the buyer refuses to receive all the goods or a portion thereof, the other party is entitled to cancel that part of the contract violated, and will also be entitled to claim from the defaulter the difference between the market price and the contract price, and, further, 1 per cent on the contract price as damages.

ART. 4. Though the buyer or buyers claim that the goods to be delivered by the seller or sellers are of a quality inferior to that contracted for, they shall in all cases take immediate delivery of the goods, but a margin of 5 per cent on the contract price

shall be deducted and deposited in a sound bank in the name of both parties until a settlement of the dispute can be arrived at.

ART. 5. Where delivery is prevented by reason of natural calamity or other unavoidable circumstances, the seller or sellers shall be entitled to demand from the buyer or buyers reasonable extension of the time of delivery. Where the time of delivery is thus extended the time of payment shall be likewise extended.

ART. 6. The weight of Indian cotton shall be taken at the original invoice weight; the weight of other cottons shall be taken at their actual weight at the place of delivery. However, the buyer or buyers may demand from the seller or sellers a guarantee as to the weight of Indian cotton.

ART. 7. When the seller or sellers unintentionally deliver cotton of different kind or quality, the buyer or buyers are entitled to demand a reasonable reduction on the price.

When the seller or sellers intentionally deliver cotton of different kind, the buyer or buyers are entitled, in addition to the privileges mentioned above, to cancel the whole contract or a part thereof, or to demand a reasonable reduction in the price, and further to claim from the seller or sellers 3 per cent of the price as a fine.

In case the seller or sellers unintentionally deliver cotton of different kind or quality and 50 days have elapsed, the buyer or buyers shall have no right to demand a reduction in the price.

ART. 8. All disputes arising between the buyer or buyers and the seller or sellers in regard to buying or selling of cotton, shall be settled by arbitration according to the following articles:

ART. 9. In case of such disputes, either party is entitled, after stating the matter to the other party, to request the appointment of arbitrators as follows:

ART. 10. The number of arbitrators shall be two.

ART. 11. The appointment of arbitrators shall be vested in the presidents of the Japan Cotton Spinners' Association and the Japan Cotton Merchants' Union, or in those representing the presidents for the time being.

ART. 12. In case the presidents, or their representatives for the time being, do not agree on the appointment of persons qualified as arbitrators, then each president or his representative for the time being shall appoint an arbitrator separately.

ART. 13. In case an arbitrator dies, resigns, or is incapacitated from acting, then a substitute arbitrator shall be appointed as in the preceding articles. If, as in article 12, the appointment of a substitute can not be agreed upon mutually, then several shall be named and one selected by ballot.

ART. 14. When the two arbitrators fail to agree, one more will be named by mutual consent, and the dispute will be settled by the latter's decision.

ART. 15. The procedure of the arbitration shall be settled by the arbitrators in case there is no provision respecting same in the Imperial Code.

ART. 16. The amount of the expenses of the arbitration and of the remuneration to the arbitrators, and the party on whom it shall fall, shall be fixed by the arbitrators. The remuneration of arbitrators is limited between 3 and 30 yen.

ART. 17. Either party to the dispute may appeal from the decision of the arbitrators by submitting the matter for final decision to the Liverpool Cotton Exchange in the case of American cotton or to the Bombay Cotton Exchange in the case of Indian cotton.

To confirm the agreement of the above contract each party shall keep one of these contracts, signed and sealed by both parties.

(Name of buyer.)

(Name of seller.)

Dated _____,

METHOD OF MIXING.

The average count of yarns produced by the Japanese industry during the first half of 1913 is given as No. 23, while two numbers, 16s (mostly weft) and 20s (mostly warp), accounted for over half of the total. Two or more of the mills spin up to No. 100.

The higher counts are spun exclusively from the longer-stapled Egyptian. For 42s to 50s or 60s Mississippi peeler cotton of $1\frac{3}{16}$ to

$1\frac{5}{16}$ inch staple is usually mixed with Egyptian of the same length. For 38s to 42s there is usually used peeler cotton of $1\frac{1}{8}$ to $1\frac{3}{16}$ inch staple. For about 28s to 38s there is required American Upland, from good middling to middling fair.

Below 28s the yarns are usually made from two or more cottons, but the mixings vary considerably from mill to mill, according to the standard of quality desired and also according to the prices of the various cottons. Ordinarily American cotton is not used for yarns under 16s. In this count it is customary to use about an eighth of middling upland, but if American cotton is relatively cheap the amount may be increased to a fourth. The remainder is frequently composed of equal amounts of Indian and Chinese. For making 20s there is ordinarily used about one-fourth American, one-half Indian, and maybe one-fourth Chinese; if American cotton is relatively cheap, the proportion of it may be increased to a third or more. For 24s the mixing is frequently half and half of American and Indian.

Lower-grade Indian cottons are used in making 10s to 15s, usually with a half and half mixing of Chinese. Yarns below this would seem ordinarily to be made of Chinese.

The proportions are varied according to quality of yarn, quality of cotton, price, etc., from mill to mill and year to year, so that the foregoing is given only as an indication of the ordinary practice. Some mills, like the Kanegafuchi, use a larger proportion of American cotton than others in making counts for sale like 16s and 20s, and they consider that the higher price brought by their yarns more than offsets the higher cost of the raw material. Chinese cotton is usually white but does not possess any special luster, while most of the Indian cottons have a brownish tinge, and both cottons are harsh. American cotton is softer and more lustrous, and the addition of it not only adds to the strength but improves the feel and appearance of the yarn and enables the mills to obtain a better price. In the mixings, of course, cottons of near the same length of staple must be used, but the Chinese Tungchow and Indian Broach and similar cottons can be readily mixed with Texas Upland, as all have about the same staple of $\frac{7}{8}$ to 1 inch. The lower-grade Indian and Chinese cottons of $\frac{5}{8}$ to $\frac{3}{4}$ inch also mix readily. The amount of waste made and the quality of the yarn vary according to the proportions, and the mixing requires the closest attention of the manager.

Some mills mix the various cottons on the floor by taking material alternately from a selected number of bales of each kind, but others run each cotton separately through the opener and picker and mix by varying the number of laps of each on the intermediate and finisher lappers. The latter method is preferred by many mills, and when a very dirty and trashy cotton is to be mixed with a cleaner one of the same staple it is much the better system.

MILL CONSUMPTION.

The Japan Cotton Spinners' Association has kept a record of the actual consumption of cotton in the mills since 1893, which differs, of course, from the amounts imported, and the following table is given

to show more clearly the use of the various cottons for the industry as a whole:

Years.	Japanese.		Chinese.		East Indian.		American.	
	Kwan.	Per cent.	Kwan.	Per cent.	Kwan.	Per cent.	Kwan.	Per cent.
1893.....	445,548	3.46	5,858,214	45.47	4,924,519	38.22	1,058,074	8.21
1894.....	384,436	2.14	9,185,388	51.19	6,300,953	35.11	1,499,499	8.34
1895.....	285,335	1.29	9,867,326	44.73	8,718,681	39.52	2,248,890	10.20
1896.....	164,263	.66	6,787,145	27.27	14,470,185	58.15	2,847,271	11.44
1897.....	128,206	.41	5,410,776	17.45	19,401,704	62.57	5,179,463	16.70
1898.....	50,944	.13	3,272,962	8.46	22,044,110	56.98	12,137,096	31.37
1899.....	2,430	.01	2,037,514	4.55	28,479,705	63.64	13,235,539	29.58
1900.....	9,560	.02	5,326,785	14.72	15,134,932	41.83	14,895,538	41.17
1901.....	9,825	.03	5,187,784	13.68	24,068,120	63.20	7,708,105	20.34
1902.....	6,333	.01	5,002,803	11.67	26,247,961	61.25	9,997,002	23.30
1903.....	381	.....	9,805,430	20.94	26,406,970	56.39	8,020,935	17.12
1904.....	46,257	.12	15,357,186	38.92	17,456,421	44.24	4,474,798	11.34
1905.....	1,824	.03	8,479,482	16.69	25,863,749	30.92	14,913,465	29.37
1906.....	73,418	.13	11,686,346	21.92	25,668,284	48.14	14,319,127	26.85
1907.....	31,267	.05	8,097,563	14.66	31,888,545	57.75	13,345,969	24.17
1908.....	.....	.....	9,137,068	17.99	27,684,127	54.51	11,480,964	22.60
1909.....	259	.....	6,399,867	10.90	36,784,257	62.63	12,665,166	21.52
1910.....	.....	.....	9,503,317	14.56	44,737,056	68.58	8,334,781	12.77
1911.....	201,559	.31	13,224,015	20.44	35,735,790	55.23	13,384,909	20.68
1912.....	1,854	.....	3,798,556	4.98	44,167,552	57.85	25,710,150	33.68
1913 <i>a</i>	5,028	.01	3,652,220	8.75	23,452,654	55.20	12,935,194	31.00

Years.	Egyptian.		Annam and Saigon.		All others.		Total.
	Kwan.	Per cent.	Kwan.	Per cent.	Kwan.	Per cent.	Kwan.
1893.....	4,700	0.04	567,269	4.40	26,277	0.20	12,884,601
1894.....	80,112	.45	494,029	2.75	2,480	.02	17,946,897
1895.....	50,247	.23	841,331	3.81	48,881	.22	22,060,691
1896.....	145,901	.59	451,078	1.81	19,491	.08	24,885,334
1897.....	169,327	.55	705,818	2.28	14,058	.04	31,009,352
1898.....	352,864	.52	648,365	2.07	182,711	.47	38,689,052
1899.....	424,825	.94	361,552	.80	205,558	.48	44,747,123
1900.....	541,705	1.51	192,231	.53	78,371	.22	36,179,122
1901.....	571,542	1.50	181,836	.47	175,092	.46	37,902,304
1902.....	838,737	1.96	511,808	1.19	249,586	.58	42,854,230
1903.....	997,075	2.13	864,743	1.85	733,654	1.57	46,829,188
1904.....	881,535	2.23	754,884	1.91	488,040	1.24	39,459,121
1905.....	883,863	1.74	314,560	.61	337,917	.66	50,794,860
1906.....	806,274	1.51	322,570	.65	436,801	.81	53,312,820
1907.....	841,016	1.52	603,265	1.09	406,134	.73	55,213,759
1908.....	1,128,741	2.22	858,499	1.69	499,754	.99	50,789,153
1909.....	1,570,547	2.67	763,955	1.30	574,264	.98	58,758,315
1910.....	1,364,966	2.09	578,842	.88	712,081	1.12	65,231,043
1911.....	1,620,785	2.51	220,540	.34	316,981	.49	64,704,579
1912.....	1,810,387	2.37	448,246	.58	411,073	.54	76,347,818
1913 <i>a</i>	956,528	2.29	403,326	.96	329,916	.79	41,734,866

a Six months.

FLUCTUATIONS IN USE OF VARIOUS COTTONS.

The foregoing table shows not only the increase in the industry as a whole and the fluctuations in prosperity from year to year, but also the relative proportions of various cottons consumed. The depression due to the Boxer troubles in 1900, following a financial crisis, resulted in a smaller cotton consumption in 1900 and 1901. Again, in 1904 the outbreak of the Russian War caused a decrease, but this loss was quickly recovered, and during the next three years every spindle ran to its capacity. In 1908 the short time due to the financial crisis and the reaction after the boom are reflected in a lessened consumption, but in the next three years, with a larger number of

spindles, the consumption increased in spite of considerable short time. In 1912 the gradual increase in spindles and the resumption of full time in all mills in the latter part of the year, due to an increasing demand, resulted in a big gain in the amount of cotton used, and the full-time prosperity of the first half of 1913 resulted in a still larger consumption.

The table shows that Japanese cotton is a negligible factor in the mills. The consumption of Annam and Saigon cotton has declined from 4.4 per cent in 1893 to less than 1 per cent in 1913. The use of Dutch East Indian, Siamese, Kwantung, Chosen, and others is also negligible. Of the four cottons used in quantity, the Indian has shown a comparatively steady gain in the 20 years; in spite of wide fluctuations the general tendency is for American to increase, and there has been a fairly steady growth in the importation of Egyptian; the use of Chinese cotton tends to decrease.

Of Chinese cotton, the largest percentage was reached in 1894, with 51.19 per cent of the total, while the largest amount used was in 1904, with 15,357,186 kwan (127,057,857 pounds). Of Indian, the largest percentage was used in 1910, with 68.58 per cent of the total, and the largest amount was used in the same year, with 44,737,056 kwan (369,841,242 pounds). Of American, the largest percentage was in 1900, with 41.17 per cent, and the largest amount used by far was in 1912, with 25,710,150 kwan (212,545,810 pounds), which was not far from twice as much as ever used before in a single year. The largest percentage of Egyptian cotton was in 1909, with 2.67 per cent, and the largest consumption was the 1,810,387 kwan (14,966,469 pounds) used in 1912.

While the general tendency is to use larger amounts of Indian, American, and Egyptian cottons and to lessen the use of Chinese, the table shows that comparative price levels may cause sharp fluctuations, as, for instance, the sudden drop in the consumption of Indian cotton in 1900 and again in 1904, the sharp decline in the use of American in 1901 and 1910 and the great increase in 1912, and the spurts of Chinese cotton in 1904, 1906, and 1911. As already noted, these fluctuations were due mainly to changes in the price of the respective cottons.

The purchases by Japanese mills are a relatively small factor on the cotton markets of the United States and Egypt, but, next to the local demand, they are the predominating factor on the Chinese and Indian markets. Japan takes some 90 per cent of the total Chinese exports and a third to a half of the total exports of Indian cotton.

RELATION OF IMPORTS TO CONSUMPTION.

In the table on page 10 are given the official Government figures for the total imports of cotton, in kin. These, however, include both unginced and ginned cotton. In the table on page 30 are shown separately the imports, in pounds, for the last 20 years of unginced and ginned cotton, and the equivalent total imports of lint (obtained by adding to the ginned cotton one-third of the amount imported in the seed). In the table on page 28 is shown the total actual mill consumption in kwan, as given by the Japan Cotton Spinners' Association.

These amounts have been converted to pounds and are given below to show the percentage of the imports used in the mills.

Years	Imports.			Consumed in mills.	Remainder.	Per cent of imports used in mills.
	Unginned.	Ginned.	Total lint.			
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	
1893.....	29,089,829	124,123,049	133,819,658	106,516,996	27,302,662	79.60
1894.....	15,232,490	143,408,903	148,586,400	148,366,997	219,403	99.85
1895.....	15,455,906	189,775,563	194,927,532	182,375,732	12,551,800	93.56
1896.....	11,490,903	222,050,754	225,881,055	205,727,056	20,153,999	91.09
1897.....	11,025,156	293,032,444	296,707,496	256,354,313	40,353,183	86.40
1898.....	7,452,354	330,328,341	332,812,459	319,842,393	12,970,066	96.10
1899.....	17,380,660	441,924,229	447,717,785	369,924,466	77,793,319	82.62
1900.....	19,102,386	334,887,141	341,254,603	299,092,802	42,161,801	87.65
1901.....	15,938,982	325,224,830	330,537,824	313,338,347	17,199,477	94.80
1902.....	18,203,828	442,973,318	449,041,261	354,273,918	94,767,343	78.90
1903.....	24,651,009	379,052,178	387,269,181	387,136,897	132,284	99.94
1904.....	33,637,512	336,788,089	348,000,593	326,208,553	21,792,040	93.74
1905.....	24,941,225	553,255,695	561,569,437	419,921,108	141,648,329	74.77
1906.....	25,508,297	391,139,650	399,642,416	440,737,083	^a 41,094,667	110.28
1907.....	29,656,239	530,714,240	540,599,653	456,453,799	84,145,854	84.43
1908.....	30,331,777	412,001,849	422,112,441	419,873,928	2,238,513	99.47
1909.....	28,376,194	498,803,472	508,262,203	485,763,257	22,498,946	95.57
1910.....	22,335,104	632,859,200	640,304,235	539,265,032	101,039,203	84.22
1911.....	20,016,949	526,676,484	533,348,800	534,912,755	^a 1,563,955	100.29
1912.....	28,673,553	775,138,061	784,695,912	631,167,411	153,528,501	80.43

^a Excess of consumption over imports.

In the 20 years, therefore, the imports of lint amounted to 8,027,090,944 pounds, and of this the regular cotton-spinning mills used 7,197,252,843 pounds, leaving 829,838,101 pounds for other uses. After the severe depression, about 1890, and again in the severe depression about 1899 and 1900, some mills failed, others closed down, and there was some reexport of cotton; otherwise the remainder not used in the mills was put to other uses, such as for padding clothes and in making wadding, and some was exported in that form, etc. In the 20 years the mills consumed 89.66 per cent of the cotton imported. In 1905 and 1910 there was bought a much larger amount than actually required, so that in 1906 and 1911, on account of the surplus, the imports were less than the consumption. In 1912 also, on account of the lower prices, there was imported considerably more than was required for that year and a large surplus was carried over into 1913.

In the 20-year period the consumption of cotton in Japanese mills increased sixfold. As the mills work day and night any increase in the number of spindles means double the increase in cotton consumption that would take place in other countries. Owing to the longer hours worked both day and night in Japanese mills and the coarse counts manufactured, it does not take a very large increase in spindles to increase greatly the cotton consumption. At the present rate of progress it seems likely, unless conditions change materially, that within 10 years Japan will rank after the United Kingdom and the United States as the largest consumer of cotton in the world.

CONSUMPTION IN VARIOUS MILLS.

In the table on page 28 is shown the relative consumption of various cottons by the Japanese mills as a whole. In the following table is shown the consumption of the various cottons in each Japanese mill during the first six months of 1913:

Mills.	Indian.	American.	Chinese.	Egyptian.	Annam and Saigon.	All others.	Total.
	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>
Kanegafuchi.....	5,070,827	2,585,065	257,866	94,497			8,008,255
Miye.....	4,076,697	1,673,337	313,805		126,968	173,033	6,363,840
Fuji Gas.....	691,672	1,025,805	352,245	236,250		72,268	2,378,240
Settsu.....	3,076,177	711,833	530,790		71,487		4,390,287
Osaka Godo.....	1,539,800	1,314,500	279,400				3,133,700
Osaka.....	1,310,899	1,199,492	275,089		50,676	24,989	2,861,145
Nippon.....		102,073		392,627			494,700
Tokyo.....	337,367	416,695	150,355	131,538	3,138	1,136	1,040,229
Amagasaki.....	258,157	758,215	62,198	14,305		21,813	1,114,688
Kishiwada.....	1,412,740	227,358	160,680				1,800,778
Fukushima.....	1,638,690	441,727	268,410				2,348,827
Nisshin.....	40,161	503,134	23,891	83,726			650,912
Kurashiki.....	946,337	313,073	37,058		49,188	58	1,345,714
Wakayama.....	703,296	221,350	265,800	3,585		17,008	1,211,039
Sakai.....	407,922	68,744	171,859				648,525
Meiji.....	262,532	115,823	7,721				386,076
Naigai Wata No. 1.....	70,023	51,345	23,878			8,743	153,989
Naigai Wata No. 2.....	263,912	140,036	134,649				538,597
Tokyo Calico.....	17,436	164,548	10,741				192,725
Ozu Hosoto.....	63,148	131,023	37,010		11,562	2,280	245,023
Nippon Seifu.....	154,537	85,045	20,880		4,464	1,677	266,603
Ehime.....	161,917	142,239	27,388		21,206	3,973	356,723
Temma Orimono.....	23,164	218,817	22,253		56,042		320,276
Takaoka Gomei.....	121,399	20,556	24,708				166,663
Sanuki.....	141,829	23,638	70,915				236,382
Matsuyama.....	178,488	45,493					223,981
Terada.....	95,445	17,716	2,622				115,783
Shikama.....	66,925	26,835	19,105				112,865
Osaka Orimono.....	7,310	77,953					85,263
Sanyo.....	107,035	33,432	6,334			1,445	148,246
Ki-Yo.....	95,042	17,192	66,054				178,288
Handa.....	55,055	10,768	19,079		8,595	6,521	100,018
Owada.....	32,789	26,571	744				60,104
Watanabe.....	23,594	11,092	8,693				43,379
Shimada.....	332	12,671					13,003
Total.....	23,452,654	12,935,194	3,652,220	956,528	403,326	334,944	41,734,866

The spinning companies in the foregoing table are arranged in order of size, ranging from the Kanegafuchi, with 406,856 ring spindles, down to the Shimada, with only 1,736 ring spindles. The company spinning the lowest average counts during the six months ended June 30, 1913, was the Owada, which had 4,484 ring spindles averaging No. 13 yarn. The company making the finest counts was the Nippon, with 106,612 ring spindles averaging No. 61.9, and 13,800 mule spindles averaging No. 72.8. The Nippon is strictly a fine-yarn mill and uses only American and Egyptian cotton. The Kanegafuchi mill makes some fine yarns but mainly low counts, averaging No. 19.4 during this period.

YARN AND WASTE PRODUCTION.

On June 30, 1913, there were 2,237,904 ring spindles and 49,360 mule spindles, making a total of 2,287,264. The daily average of ring spindles working during the six months was 2,074,899, and they produced 36,358,702 kwan (300,577,389 pounds) of yarn averaging No. 23; the daily average of mule spindles working was 43,503, and they produced 176,379 kwan (1,458,125 pounds) of yarn averaging No. 47.7. The total cotton consumption was 41,734,866 kwan, or 345,022,137 pounds, and the total yarn produced therefrom was 302,035,514 pounds. This would indicate a yarn production of 87.5 per cent, leaving only 12.5 per cent for waste. The waste produced in Japanese mills, however, is usually considered as 16 per cent,

some mills averaging much higher. The small per cent of waste shown is due to the fact that in the computation there is used the weight of the yarn as sold, which includes moisture added in condition, and not the actual weight of yarn as spun. Moreover, some of the waste from the better grades of cotton is reworked direct into lower counts in the same mill and is probably not weighed for inclusion as waste.

The amount of cotton used depends more on the average counts made than it does on the number of spindles. For example, the Fukushima, which has only 82,976 ring spindles but averaged No. 16.5, consumed 2,348,827 kwan, as against only 494,700 kwan consumed by the Nippon, which has a total of 120,412 ring and mule spindles averaging the high counts shown above.

COTTONS USED BY VARIOUS MILLS.

The companies using the largest amounts of cotton were the Kanegafuchi, the Miye, the Settsu, the Osaka Godo, the Osaka, the Fukushima, and the Fuji Gas in the order named. The mills using the largest amounts of Indian cotton were the Kanegafuchi, Miye, Settsu, Fukushima, Osaka Godo, Kishiwada, and Osaka; the largest consumers of American cotton were the Kanegafuchi, Miye, Osaka Godo, Osaka, Fuji Gas, Amagasaki, and Settsu; the largest consumers of Chinese cotton were the Settsu, Fuji Gas, Miye, Osaka Godo, Osaka, Fukushima, Wakayama, and Kanegafuchi. Egyptian cotton was used in the Nippon, Fuji Gas, Tokyo, Kanegafuchi, Nisshin, Amagasaki, and Wakayama, all of which made more or less of the finer counts, though the Nippon is the only one exclusively on fine counts.

The only mills using Japanese cotton were the Ehime, with 2,748 kwan, and the Ozu Hosoi, with 2,280 kwan. These trifling amounts of Japanese cotton, with cottons from Chosen, Siam, Dutch East Indies, and Kwantung Province, are included in the column headed "All others." The Miye used the largest amount of cotton from Indo-China and various other small sources of supply.

The bulk of the cotton used in Japan to-day comes a considerable distance, and the large consumption necessitates considerable stocks being kept on hand at all times. The amount of money tied up in raw material, with the extraordinarily high first cost of the mills, makes necessary a larger capitalization for both fixed and working capital than is required in most other countries. Hence it has been difficult for small mills, unless very strongly backed, to succeed in Japan for any length of time, and every recurring period of depression sees the failure of many small mills, which are bought up cheaply by the larger and stronger concerns or else they find themselves forced to amalgamate with a larger concern to avoid failure.

It may be noted that the ordinary Japanese term for cotton is "wata", though the term "menkwa", meaning "cotton flower," is used in some connections. American cotton is usually known as "beimen," Indian cotton as "Indowata," and Chinese cotton as "Shinawata." Cotton in the seed is called "miwata" to distinguish it from ginned cotton, which is termed "kuriwata."

FACILITIES FOR HANDLING COTTON AT KOBE.

The Japanese imports of cotton in the calendar year 1912 were entered at the following ports:

Ports.	Unginned.		Ginned.	
	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
Kobe.....	11,265,600	837,457	407,717,300	138,465,935
Yokohama.....			92,297,200	32,286,501
Osaka.....	10,411,300	1,052,004	27,642,000	9,582,684
Yokkaichi.....			27,607,400	8,689,392
Moji.....			25,379,400	7,845,362
Nagasaki.....			4,792,100	1,902,475
All other ports.....			560,700	162,394
Total.....	21,676,900	1,889,461	585,996,100	198,934,743

About two-thirds of the cotton imported into Japan is landed at Kobe. As raw cotton is the chief import into Japan, and the bulk of it is handled at Kobe, special facilities have been provided to handle it in the most efficient manner. Wada Point, at one corner of the harbor, has been specially set aside for cotton. On a sandy spit at this place the Tokyo Shoko Kaisha, about 1906, erected model warehouses for cotton only, and these are under control of the customs officials stationed there. Stone piers were erected, the land brought to the same level, and sets of warehouses arranged along and extending back from this front. The warehouses have walls of brick and reinforced concrete, fireproof doors, galvanized-iron roofs, and solid concrete floors. Between each two warehouses are tracks on which run small flat cars. Some of the ships from China lie at the pier and the cotton is swung down to the small flat cars, which are then pushed to the door of a nearby warehouse and thence trucked to the building. Each mark is kept by itself, as there is ample room in the large warehouses. Most cotton, however, is brought in by ships that stop at Kobe on their way to some other port, so these ships lie out a short distance, and the cotton is brought in by lighters and swung by pier cranes to the flat cars. There is ample room, the system of handling is economical, there is no danger of exposure to the weather or to theft; in fact the system of handling cotton is not excelled anywhere. A railroad runs back of the group of warehouses and lighters come up to the front.

Osaka is the greatest cotton-consuming center and the larger portion of the cotton is transferred direct from the warehouses to lighters that are towed up the river to that city; a smaller portion goes out by rail. The Tokyo Shoko Kaisha keeps cotton 11 days in its warehouses if required, but if not shipped in that time it is trucked across to regular bonded warehouses directly beside the company's warehouses, where it is kept until required. As previously noted, American cotton landed here is nearly always underweight, whereas Indian and other cottons usually come up to invoice weights. An inspection of the landing and handling facilities leads to the conclusion that the loss does not occur at this port, but before arrival.

TRANSPORT OF INDIAN COTTON.

When the imports of Indian cotton began to increase the Japanese mills were hampered in their use of it by excessive freight rates. At that time the carrying trade between India and Japan was exclusively in the hands of a shipping combine composed of the Peninsular & Oriental Steam Navigation Co., the Austrian Lloyd, and the Navigazione Italiana, and these charged 17 rupees (\$5.52) per ton on cotton carried from Bombay to Japan. Tata Sons & Co., cotton merchants of Bombay, who were desirous of increasing their shipments to Japan, opened negotiations for a competing line to give lower rates, and the Japanese Government and the spinners sent representatives to India to investigate conditions. In July, 1893, the first cotton transport agreement was made between five companies—the Kane-gafuchi, Miye, and Osaka (cotton mills), and the Naigaimen and the Nippon Menkwa (cotton importers) on the one hand, and the Nippon Yusen Kaisha and Tata Sons & Co. on the other—the two last-named agreeing to furnish one ship each. As the other companies belonging to the Japan Cotton Spinners' Association were not parties to the agreement, the five companies feared that the Peninsular & Oriental would lower its rates to them and so put those making the agreement at a disadvantage. They therefore used their best efforts to induce the members of the association to join with them to break the monopoly of the Peninsular & Oriental, and in this they were successful. On October 1, 1893, the Japan Cotton Spinners' Association in the name of all its members, spinning mills as well as cotton dealers, made a new Indian cotton transport agreement with the Nippon Yusen Kaisha for a period of one year.

GENERAL FEATURES OF AGREEMENT WITH NIPPON YUSEN KAISHA.

The principal points of this agreement were as follows:

The Nippon Yusen Kaisha agreed to arrange for one sailing a month to carry cotton from Bombay to Japan, and to arrange for one sailing every three weeks if possible. The members of the association guaranteed a cotton cargo of 75,000 bales a year maximum, of which the Nippon Yusen Kaisha had to transport at least 50,000. If the Nippon Yusen Kaisha failed to furnish cargo space for this amount, then it had to pay the association an indemnity of 4 rupees for every ton of this amount it could not take, while if the members of the association failed to supply 50,000 bales they were to pay 13 rupees per ton on the quantity lacking. The cost of transport was fixed at the ruling rate of 17 rupees per ton, but subject to a rebate of 4 rupees per ton to all members of the association. Should other domestic or foreign steamship companies quote lower than 13 rupees, the Nippon Yusen Kaisha guaranteed to carry any cotton in excess of the 50,000 bales at the same rates as quoted by the outsiders.

The representative of the Peninsular & Oriental objected to the low rates of this contract and to the inauguration of a new line, but without success. On November 7, 1893, the Nippon Yusen Kaisha initiated the new line to Bombay by the sailing of the *Hiroshima Maru* from Kobe. As was expected the combine headed by the Peninsular &

Oriental started sharp competition, lowering the cost of transport to 8 rupees and later to $1\frac{1}{2}$ rupees. The members of the association, however, knew that as soon as competition was eliminated the rates would be raised, and adhered to their agreement. The competition became sharper and the cotton transport contract was changed in a few particulars on March 6, 1894. First, the Nippon Yusen Kaisha was guaranteed the entire transport of Indian cotton. Secondly, the rate of transport was to be lowered to 12 rupees (by raising the rebate from 4 to 5 rupees) and if competition was stopped this rate was not to be raised. Further, the Nippon Yusen Kaisha agreed to reduce its rates in proportion to any subsidy it might receive from the Government. It actually succeeded in getting a subsidy in 1896 for its service from Yokohama to Bombay, but this was canceled in April of the following year. In February, 1895, Tata Sons & Co. resigned from this agreement, and since then the Nippon Yusen Kaisha has had the exclusive right of transport for members of the association.

POOL AGREEMENT OF COMPETING LINES.

In June, 1894, a pool agreement was effected between the Nippon Yusen, the Peninsular & Oriental, Austrian Lloyd, and the Italian Line, covering the transport of merchandise between Bombay and Japan, including ports of call, and this stopped competition to a certain extent. The contract came into force July 1, 1896, and has been renewed yearly ever since. In this contract is arranged the number of sailings per year by each of the four lines, and if any company by reason of a strong demand for transport exceeds its apportioned number of sailings the profit or loss resulting therefrom is divided among the four. The transporting company receives 80 per cent of the total freight charged, after all rebates, expenses in connection with transshipment, etc., have been deducted. Of the remainder the Nippon Yusen and Peninsular & Oriental receives each $32\frac{1}{2}$ per cent, and the Austrian Lloyd and Navigazione Italiana each $17\frac{1}{2}$ per cent. It is further agreed that any advantage which one of the four companies realizes by reason of a special contract with any other concern for the transport of merchandise (for instance, such as the contract between the Nippon Yusen Kaisha and the association) shall be divided among the four in a similar manner. If it should be necessary for a company to place cargo with another line, the other companies in this contract are considered first. No change of freight rates or of rebates can be made by one company without the permission of the representatives of the other three.

This pool agreement between the four steamship companies has existed concurrently with the contract between the Nippon Yusen Kaisha and the association and both have been renewed yearly. The Nippon Yusen Kaisha has the monopoly of handling Indian cotton and the other companies get only such cotton as is given them by the Nippon Yusen Kaisha. Usually the Nippon Yusen Kaisha transports over 80 per cent of the Indian cotton shipped to Japan and gives the remainder to its partners in the pool agreement.

PRESENT CONTRACT WITH NIPPON YUSEN KAISHA.

The following is the latest contract between the Nippon Yusen Kaisha and the Japan Cotton Spinners' Association, signed January 15, 1913:

The Nippon Yusen Kaisha hereby contracts to transport cotton to Japan from Bombay, Tuticorin, and Colombo, according to the following articles, with the undermentioned firms:

Kishiwada Boseki Kabushiki Kaisha.	Simon Evers & Co.
Osaka Godo Boseki Kabushiki Kaisha.	Kanji Sometami.
Sakai Boseki Kabushiki Kaisha.	M. Futehally Sons.
Tokyo Boseki Kabushiki Kaisha.	Shirasu Shoten.
Sanuki Boseki Kabushiki Kaisha.	Heizaemon Hibiya.
Ehime Boseki Kabushiki Kaisha.	Genjiro Nogama.
Miye Boseki Kabushiki Kaisha.	Shoroku Nishikawa.
Sanya Boseki Kabushiki Kaisha.	Miye Zakka & Co.
Naigai Wata Boseki Kabushiki Kaisha.	Gosho Goshi Kaisha.
Osaka Boseki Kabushiki Kaisha.	American Trading Co.
Kurashiki Boseki Kabushiki Kaisha.	Mansuke Yamadzumi.
Fuji Gas Boseki Kabushiki Kaisha.	Hyakujo Nakajima.
Setten Boseki Kabushiki Kaisha.	Balbert Bros.
Amagasaki Boseki Kabushiki Kaisha.	Takenosuke Yuasa & Co.
Wakayama Boseki Kabushiki Kaisha.	Mesajiro Kiya.
Fukushima Boseki Kabushiki Kaisha.	Yamaguchi Gomei Kaisha.
Nippon Boseki Kabushiki Kaisha.	Yoshiji Toyohara.
Kanegafuchi Boseki Kabushiki Kaisha.	Otto Rimiel.
Matsuyama Boseki Kabushiki Kaisha.	Subel Wolf.
Nippon Seifu Kabushiki Kaisha.	G. Dossa & Co.
Ki-Yo Shokufu Kabushiki Kaisha.	Okura & Co.
Temma Orimono Kabushiki Kaisha.	Senkichi Takata.
Osaka Orimono Kabushiki Kaisha.	Nippon Shogiyo Kaisha.
Shikama Boseki Gomei Kaisha.	Ushimatsu Takami.
Takoaka Boseki Gomei Kaisha.	Sudzuki Shoten.
Meiji Boseki Goshi Kaisha.	Mitsui Bussan Kaisha.
Tokyo Calico Seishoku MK. K.	Takehayashi Yoko.
Ozu Hosoito Bosekijo.	E. H. Hunter & Co.
Watanabe Bosekijo.	Kiushichi Yoshikawa.
Shimada Bosekijo.	Tobe Shoten.
Kaizuka Bosekijo.	Sahei Sugiyama.
Nippon Menkwa Kaisha.	Fukada Gomei Kaisha.
Heibei Nakanishi.	Findlay Richardson & Co.
J. Yamamoto.	Yokohama Kiito Gomei Kaisha.
T. Nishimatsu & Co.	Chiogoro Shiba.
K. Koshimi.	Riojo Kawara.
Y. Iwata.	Dodwell & Co.
Y. Iwata, as representing brokers of Exchange Market at Osaka.	Cotton Bureau of Osaka Tokio.
Tominaka Goshi Kaisha.	Kiyuemon Mantani.
Komakichi Nagasawa.	Jiugoro Ikeda.
Suketaro Yatsushiro.	Yu Kee Hao.
Tata Sons & Co.	Carl Rhode & Co.
E. Pabany.	Ishii Goshi Kaisha.
Jardine Matheson & Co.	Tomiro Teramura.
W. M. Strachan & Co.	Yasujiro Kazima.
A. M. Esabhoy.	Tomitaro Fukuzawa.
C. Illies & Co.	Manjiro Yokoye.
Cornes & Co.	Takenari Branchi.
M. Raspe & Co.	Kihachio Tsukamoto.
Samuel Samuel & Co.	Chuo Selmen Kaisha.
Kobe Boyeki Shokai.	Chiu Amenomiya.

ARTICLE 1. The associated companies above contract to place their entire shipments of cotton into Japan from the said ports with the Nippon Yusen Kaisha.

ART. 2. The Nippon Yusen Kaisha undertakes to make as quick despatch as possible, but is at liberty to use either its own or other ships at its discretion and to arrange its own times of departure and arrival, as also the ports of sailing and ports of call.

ART. 3. The Nippon Yusen Kaisha agrees to reserve by preference for the transport of the above cotton two-thirds of the cargo space of its own or chartered ships, but this does not hold good for the cotton it gives to other companies.

ART. 4. When cotton is shipped the association has the right to have a representative at the shipping port to look after the interests of the consignees.

ART. 5. The freight chargeable during the period of this contract on cotton handled by the Nippon Yusen Kaisha for the associated companies shall be based on the ton of 40 cubic feet, or 2,240 pounds (with the exception of Tuticorin, where the ton shall be considered as 1,792 pounds), delivered on board ship, as follows, provided that all landing charges at Osaka or Kobe, such as charges for piers, lighters, storage, etc., are not payable by the Nippon Yusen Kaisha: Bombay to Osaka, Kobe, Yokohama, Moji, or Nagasaki, 17 rupees; Tuticorin to Osaka, Kobe, Yokohama, Moji, or Nagasaki, 20 rupees; Colombo to Osaka, Kobe, Yokohama, Moji, or Nagasaki, 15 rupees.

The above freight is to be paid at the time of loading at the three mentioned ports, and rebates shall be given to the representative of the association in Bombay as soon as the whole amount of freight has been paid in as follows: Exported from Bombay, per ton, 6.41 rupees; exported from Tuticorin, per ton, 6.874 rupees; exported from Colombo, per ton, 5.155 rupees. Provided that cotton transshipped at Colombo shall be rebated as much as that from Tuticorin if the bill of lading was issued at Tuticorin.

ART. 6. The Nippon Yusen Kaisha agrees to stop steamers at the port of Yokkaichi, at the request of the association, under special contract clauses to be given later.

ART. 7. In case the Nippon Yusen Kaisha carries cotton to Japan from Bombay, Tuticorin, or Colombò, for any one not a member of the association then the amounts received from such transport, after deduction of the rebates, shall be paid to the association. On the other hand, if the association ships cotton by any other steamers than those of the Nippon Yusen Kaisha, or steamers appointed by them, then it shall pay the Nippon Yusen Kaisha the full amount of such freight according to article 5, less the rebates.

ART. 8. Admission or resignation of a member from this contract requires the permission both of the association and of the Nippon Yusen Kaisha.

ART. 9. When on account of natural calamity or other unavoidable circumstances the transport of cotton is made impossible, or when navigation is interfered with, then the execution of this contract may be suspended or cancelled in part or in whole.

ART. 10. All rights and obligations which are in consequence of the above and which do not affect the entire association, but only a smaller or larger percentage of them, are only for those members concerned.

ART. 11. This contract commences January 1, 1913, (2d year Taisho) and ends December 31, 1913, one full year. At the expiration or dissolution of this contract it may be renewed or discontinued.

Two duplicates of this contract, signed and sealed by both parties, shall be kept as evidence of the contract by each party.

Signed: January 15, 1913.

BARON RENPEI KONDO,
President, Nippon Yusen Kaisha.

TAKEO YAMANOBE,
President, Osaka B. K. K.

JIYUEMON TAKEWO,
President, Settsu B. K. K.

SANJI MUTO,
Managing Director, Kanegafuchi B. K. K.

TSUNEJO SAITO,
Director, Miye B. K. K.

MAGOSABURO OHARA,
President, Kurashiki B. K. K.

FUSAJI TANIGUCHI,
Managing Director, Osaka Godo B. K. K.

JIYOMO TERADA,
President, Kishiwada B. K. K.

TOYOGI WADA,
Managing Director, Fuji Gas B. K. K.

SUKETARO YATSUSHIRO,
President, Fukushima B. K. K.

SEIJIRO MIYAGIMA,
Director, Tokyo B. K. K.

*Standing Committee of the Dainihon-boseki-rengokai
(Japan Cotton Spinners' Association).*

The following clauses are hereby made part of this contract:

1. A ship chartered for cotton transportation must be of the same class as 100 AI on Lloyds ships list or one having the same insurance rating.
2. When the Indian cotton being carried to discharge at the port of Osaka is less than 1,000 tons then the Nippon Yusen Kaisha reserves the right to transport same by lighter from Kobe without participating in the insurance.
3. If the privilege of loading cotton given under article 3 is expired at the time of a sailing from Colombo, provided it is during the season of cotton transportation, then it may be prolonged by mutual agreement between the manager of the Nippon Yusen Kaisha at Bombay and the representative of the association.
4. The rights on ships chartered by the Nippon Yusen Kaisha for a one-way voyage will be a transaction to be decided for each case.
5. The Nippon Yusen Kaisha agrees to send ships around by Yokkaichi, if requested by the association, upon the agreement to pay 700 yen additional per 1,000 tons and 50 sen a ton additional for all amounts exceeding this.
6. When cotton is being transported for Moji the Nippon Yusen Kaisha agrees to stop at Moji on its return trip to Japan, except in case the ship is chartered, when the cotton will be transhipped from Kobe down to Moji.
7. Agents or branches of the associated steamship companies shall give to the representative of the association at Bombay, as early as possible, notice as to the name of ship to be loaded, the number of bales it can carry, the date of commencement of loading and of proposed departure, and in the case of an associated steamship company going to charter any ships they may report privately the conditions of charter transactions.

BARON RENPEI KONDO,
President, Nippon Yusen Kaisha.
TAKEO YAMAOBBE,

For Standing Committee, Dainihon-boseki-rengokai.

The foregoing translation of the 1913 contract between the Nippon Yusen Kaisha and the Japan Cotton Spinners' Association, has been given in full because of its far-reaching effect on the Japanese cotton industry.

EFFECT OF AGREEMENT ON SPINNERS' ASSOCIATION.

An important result of this transport agreement has been to effect a closer union of the members of the association and to enable the majority to enforce their will to an extent otherwise impossible. Many measures for the good of the industry as a whole, such as forcing mills to make finer counts and compulsory short time, have at times caused hardships to individual members whose interests were not always in line with those of the majority. If a mill, however, had failed to obey the dictates of the association and had resigned or been expelled, the cost of its chief raw material would have been raised, by reason of its having to pay the full freight rate, so that it would have been at a disadvantage in competing with the others. Indian cotton constitutes from one half to two-thirds of the cotton used in the Japanese industry, and every mill in Japan, with only one exception, uses more or less Indian cotton.

The mills do not themselves import, but place their orders through local cotton dealers and importers, and since August 1, 1896, the mills have refused to buy except through such dealers as have been approved and have become associate members of the association. This rule, together with the Indian cotton contract rules, has enabled the mills to safeguard their interests in their dealings with the cotton men.

In another way the Indian cotton rebate has been of importance in that it has been the main lever available to the association for forcing up their exports of yarn and cloth. This fund was used to

establish the lottery to encourage the Chinese to buy Japanese yarn in 1908, and in the various other schemes to encourage the exportation of yarn and cloth by paying premiums to exporters. Usually the funds necessary have been nominally levied on the mills in certain proportions, but with the proviso that if not paid in cash they should be deducted from the rebate amount in the hands of the association, and in actual practice most of the mills have paid their apportionments in this way. To have a charge deducted from an amount due one seems less a hardship than to have to pay out cash, so that this arrangement has facilitated the passing of various propositions relative to encouraging exports.

During 1913 the Indian cotton imported amounted to 188,921 tons. The nominal freight rates from Bombay, Tuticorin, and Colombo were 17, 20, and 15 rupees, respectively, but deducting rebates they amounted actually to 10.59, 10.126, and 9.845 rupees, respectively. The great bulk of the cotton came from Bombay, so that in round numbers the nominal freight paid on Indian cotton must have been about \$1,100,000, and the rebate to the association about \$400,000 for the year, which shows the importance of this special cotton transport contract.

DEVELOPMENT OF COTTON MANUFACTURING.

CHRONOLOGICAL SUMMARY.

The manufacture of cotton by machinery started in Japan in 1866 with the establishment of a mill with 5,456 spindles at Isonohama, near Kagoshima, in the southern part of the island of Ōsushiu. The first weave shed with power looms commenced work at Tokyo, with 200 looms, in 1888. From these small beginnings has developed the cotton-manufacturing industry of Japan, the salient features of which can be seen from the following table:

Years.	Com- panies.	Mills.	Total spin- dles Dec. 31 (associa- tion).	Daily av- erage working spindles (govern- ment). ^a	Paid-up capital. ^a		Consumption of cotton. ^a	
					Associa- tion re- turns.	Govern- ment re- turns.	Associa- tion re- turns.	Govern- ment re- turns.
					<i>Yen.</i>	<i>Yen.</i>	<i>Kwan.</i>	<i>Kwan.</i>
1866.....	1	1	5,456					
1871.....	2	2	7,456					
1872.....	3	3	8,204					
1879.....	4	4	10,204					
1880.....	5	5	12,204					
1881.....	7	7	16,204					
1882.....	13	13	28,204					
1883.....	16	16	43,704					
1884.....	19	19	49,704					
1885.....	22	22	59,704					
1886.....	22	22	71,604	65,420				
1887.....	21	21	76,604	70,220				
1888.....	24	24	116,276	113,856				1,807,066
1889.....	28	28	215,190	215,190	7,499,525			3,859,464
1890.....	30	30	277,895	277,895	8,737,502			5,962,484
1891.....	36	36	353,980	353,980	8,477,274	8,715,510		8,995,295
1892.....	39	39	385,314	385,314	11,223,737	9,103,237		12,240,793
1893.....	40	40	381,781	381,781	11,271,005	11,271,005	12,884,601	11,531,307
1894.....	45	45	530,074	476,123	13,308,030	13,308,030	17,946,897	17,179,274
1895.....	47	47	580,945	518,736	16,392,058	16,392,058	22,060,691	21,771,346
1896.....	61	61	757,196	692,384	22,860,709	22,860,709	24,885,334	24,875,087
1897.....	65	74	970,567	768,328	28,881,476	36,414,728	31,009,352	32,068,243
1898.....	74	77	1,146,749	1,027,817	32,500,226	42,342,080	38,689,052	42,544,656
1899.....	78	83	1,189,929	1,170,327	33,720,777	33,023,317	44,747,123	42,962,406
1900.....	79	80	1,267,872	1,144,027	33,991,510	35,908,512	36,179,122	38,323,770
1901.....	66	81	1,295,598	1,181,762	34,645,435	36,690,567	37,902,304	38,681,886
1902.....	56	80	1,352,948	1,301,118	31,659,521	34,459,082	42,854,230	44,286,547
1903.....	51	76	1,381,306	1,290,347	32,904,716	34,405,329	46,829,188	45,521,389
1904.....	49	74	1,345,585	1,306,198	32,262,230	34,699,554	39,468,121	40,157,040
1905.....	49	78	1,426,594	1,402,931	34,331,700	36,991,079	50,794,860	50,516,514
1906.....	47	83	1,472,353	1,441,934	36,546,350	40,112,536	53,312,820	53,079,596
1907.....	42	83	1,540,452	1,500,579	52,754,125	55,284,410	55,213,959	54,707,033
1908.....	36	86	1,695,879	1,403,034	57,595,385	52,417,903	50,789,153	49,496,645
1909.....	37	88	1,954,892	1,785,665	62,759,000	57,977,926	58,758,315	58,726,909
1910.....	36	92	2,099,764	1,896,601	65,209,013	59,315,626	65,231,043	66,825,340
1911.....	34	90	2,170,796	1,901,290	63,408,868	61,696,079	64,704,579	65,565,730
1912.....	41	91	2,176,748	(c)	68,439,245	(c)	76,347,818	(c)
1913 ^b	45	94	2,287,264	(c)	75,722,484	(c)	41,734,866	(c)

^a Statistics for earlier years not available.

^b Six months.

^c Government returns not available.

Other details, such as the increase in the number of operatives and in the number of looms, will be shown separately. The figures for the number of companies and the number of mills they owned show the tendency since 1896 to concentrate the industry in fewer hands. The figures of the Japan Cotton Spinners' Association and

of the Government (the latter published in the Statistical Report of the Department of Agriculture and Commerce) as to the number of spindles do not conflict. The association figures give the total number at the end of each year, and the Government figures are the daily average working spindles. Owing to some difference in method of compiling or in the time of year when compiled, there is, however, a discrepancy between the figures of the association and of the Government for the amount of paid-up capital and the cotton consumption. The difference in most cases is not very material.

EARLY HISTORY.

FOUNDING OF FIRST MILL.

The Daimyo Nariakira Shimazu, though he never saw a cotton mill, has been called the father of the Japanese cotton industry. He was the head of the old Kagoshima clan, in the Province of Satsuma, southern Kiushiu, when, shortly after the middle of the nineteenth century, some cotton yarn was brought in by a foreign ship. He was much impressed with the superiority of this machine-made yarn over the native hand spun and by the higher price that could be obtained for it. He became anxious to establish a mill to make such yarn in his Province, but died before he could complete the arrangements. His son Yoshimitsu decided to carry out his father's idea, and finally, in 1865, ordered, through a Manchester mercantile house, the complete equipment for a small spinning mill. The machinery was supplied by Platt Bros. & Co., of Oldham, and on January 9, 1866, they shipped 3 mules and 6 throstle-spinning machines, comprising a total of 5,456 spindles, with the necessary preparatory machines. After a six months' trip around the Cape these arrived in Nagasaki Harbor on July 12, 1866, and were thence transported to Kagoshima. Here, near the seashore, the Daimyo established the first cotton-spinning mill in Japan and called it after the place Isonohama, which means Beach of Beaches. He hired Englishmen to erect and operate the mill, the building for which was constructed entirely of stone at heavy cost. Coal he brought from Chikuzen, some 150 miles away, and as transportation facilities at that time were most primitive it proved very costly. Cotton had to be brought still further, most of it coming from the Provinces of Hiroshima and Osaka.

The yarn made by this mill was much inferior to the foreign product, but was so much better than the hand spun that it enjoyed a great reputation throughout the country and was known as Iso-kasi, or the yarn of the beach.

THE SECOND AND THIRD MILLS.

Finding his mill located so disadvantageously as regards raw material, the Daimyo resolved to build another in a more central part of Japan, near the main cotton-growing section, and accordingly he ordered 2,000 more mule spindles. Owing to the disturbed condition of affairs preceding and following the year 1868, when the ancient feudal system headed by the Shogun was abolished and there occurred the restoration of the Emperor to the active control of the

nation, the erection of this mill was delayed. In 1871, however, the second mill, known as the Sakai Spinning Mill, began work at Sakai, near Osaka.

Just before the restoration the disturbed condition of the country resulted in exorbitant prices for commodities throughout Japan and caused much suffering. This was especially felt in Yedo (now Tokyo) and the Bakufu Government assembled all the wholesale merchants of the city and consulted with them as to means for reducing prices. A cotton cloth merchant named Mampei Kashima appealed to the Government to aid him in starting a cotton-spinning mill under the foreign system for the purpose of lowering the price of clothing materials. The following year, in 1867, the Bakufu Government agreed to this and he ordered machinery from England. This arrived the next year in the midst of the restoration and had to be stored for the time in an importer's warehouse. When the merchant had obtained aid from the new Government and wished to start operations those who were associated with him as partners had become dubious of the success of the enterprise and withdrew. Kashima persevered, however, and finally, after many mechanical as well as financial difficulties, got his small mill into operation in 1872. This Kashima spinning mill was the third established in Japan, but the first by a private individual. It contained only some 748 ring spindles and was located near the Takino River, in a suburb of Tokyo.

By the end of 1872 there were in operation in Japan three small spinning mills, the Isonohama, the Sakai, and the Kashima, with 8,204 spindles, of which it seems 6,000 were mule, 1,456 throstle, and 748 ring. These mills attracted the attention of the Government, as well as of the people, especially in view of the fact that following the restoration the importation of cotton yarn and piece goods had increased greatly and had become the most prominent factor in creating an adverse balance of trade. The total imports into Japan in the 10 years, 1868 to 1877, inclusive, amounted to 246,240,299 yen, of which cotton yarn and piece goods accounted for no less than 89,586,600 yen, or over 36 per cent.

GOVERNMENT AIDS DEVELOPMENT.

In 1877 there occurred the civil war of Saigo, and though the discontented samurai were suppressed business conditions became very bad, as paper money became much depreciated and gold began to flow out of the country, leaving only the silver. To remedy this condition and to bring about a better trade balance, it became necessary to increase home production, and with the inexperience of the people in manufacturing by machinery and their lack of capital this seemed possible only with Government initiative and financial assistance. The Government therefore offered to import lots of 2,000 spindles and to sell them to the people on 10 years' time without interest, and to send Government experts to teach the operatives in each new mill how to use the machinery. The governors of the prefectures were also ordered to encourage people to take up the new industry. In 1878 the Government placed orders in England for the complete equipment of two spinning mills of 2,000 spindles each, and mills were erected for these in the cotton-growing sections, one at

Kamiseno-muro, in Hiroshima prefecture, Aki Province, and the other at Okira-mura, in Aichi prefecture, Mikawa Province. In 1879 the Government placed orders for 10 more sets of 2,000 spindles each, with all necessary accessories, and on their arrival mills were established at Hyogo, Osaka, Nara, Okayama, Miye, Yamanashi, Shidzuoka, Tochigi, and Miyagi. These mills were all small, mainly of 2,000 spindles each, and most of them were leased or sold to private parties.

This Government aid greatly stimulated public interest in cotton spinning, and in 1879 a group of capitalists sent Mr. Takeo Yamanobe to England to study English methods. On his return the next year preparations were made to start a larger mill than any then existing, and Baron Shibusawa and others organized the first joint-stock spinning company, calling it the Osaka Boseki Kabushiki Kaisha. This mill was erected in 1882 and began work in 1883, with 10,500 spindles. The initial capital was 250,000 yen. This was soon after raised to 560,000 yen and a new factory built containing 20,820 spindles. This company, with additions, still ranks as one of the largest in Japan.

DEVELOPMENT IN LATER YEARS.

RAPID EXPANSION IN THE 1886-1889 PERIOD.

By 1886 the money market had again become secure and the rates of interest declined, so that the Government announced the foundation of the convertible note system, whereby Government paper was redeemable in silver, and issued bonds at 5 per cent to draw in all of the inconvertible paper money. This put business on a firmer foundation, and led many capitalists to invest their money in business enterprises in which there was a chance of better returns; a particularly large amount was turned into the cotton industry. In 1886 was founded the Miye, in 1887 the Tokyo, the Kanegafuchi, the Naigai Wata, and the Kurashiki, in 1889 the Settsu and the Amagasaki, all now large companies, and many others. In 1887 capitalists of Tokyo decided to start a weaving factory. They formed the Onagigawa Cotton Manufacturing Co. and commenced operations with 200 looms at Ozi, near Tokyo, in 1888. This was the first power-loom weaving factory in Japan. Shortly afterwards the Osaka Weaving Co. was formed, but it did not commence work until 1890, and in October of that year was taken over by the Osaka Boseki Kabushiki Kaisha. By the end of 1889 the cotton industry of Japan may be said to have become firmly established with 28 mills in operation, though these contained only 215,190 spindles and 200 looms. Not only cotton mills, but enterprises of all kinds were launched during the boom period of 1886-1889, and stocks sold high by reason of the speculative excitement and the artificial stimulation.

EFFECT OF DEPRESSION IN 1890.

In 1890 this boom was followed by an acute business depression over the whole Empire, the effects of which lasted for two or three years. The spinning industry, for several reasons, was especially affected by the collapse. In 1884 some cotton had been brought in from India and in 1886 American imports were started with a sample bale, but the purchases of both were trifling and the mills, starting

with Japanese cotton, were now running almost entirely on Chinese, with a mixture of the local cotton. These cottons were not fit for counts much above 12s, and though at first the mills made large profits by selling their yarn on the market in competition with the imported yarn, the demand gradually declined for the home product, as the material was not so soft or so lustrous as the imported, nor so well spun. In the face of the increasing output of the Japanese mills the imports of yarns, especially Indian, had increased rapidly up to 1888, and when the depression set in there was a stock of some 10,000 bales of foreign yarn at Kobe that had to be sacrificed at reduced prices, and this further demoralized the home industry. These conditions, with the very weak financial position of most of the mills, especially some of those started during the boom, caused disaster. Some of the mills failed or changed hands, and even the strongest had difficulty in weathering the storm. This was the worst period in the history of the Japanese cotton industry, and but for steps taken by the Government and by the association of mills the industry would have been almost wiped out.

REVIVAL IN 1892 AND 1893.

In 1892 signs of reviving prosperity were shown by the founding of the Fukushima, Sakai, Kishiwada, and Matsuyama mills, followed in 1893 by the Nippon, the Wakayama, and others. The mills, however, had been taught a lesson and saw that they could not continue to compete while using the inferior Chinese cotton, which, moreover, was rising in price with the establishment of spinning mills at Shanghai. They therefore turned to India for their raw material but found importation hampered by the high rates charged by the shipping combine. They then induced the Nippon Yusen Kaisha to start a line to bring cotton from Bombay by giving the company the entire business.

The imports of Indian cotton soon increased and the mills began to make higher counts, especially 16s and 20s, for which there was ample demand in both the home and Chinese markets. They soon succeeded in driving Indian yarns off the home market and began to offer strong competition in China. Until 1890 the Japanese mills had made entirely for the hand-loom weaving industry at home, but during the depression of 1890 they had sent a few sample bales to Shanghai and a few more in the two subsequent years. When, in 1893, the depression had spent its force they found a foreign outlet essential for their expanding production, and from that time on began a more aggressive effort to capture foreign markets, especially the Chinese, which became their fixed goal. In the meantime American cotton was imported in increasing amounts, and the mills soon began to make yarns above 20s, using varying amounts of Chinese, Indian, and American, and on the higher counts using American cotton alone. The Nippon Boseki, founded in 1893, was the first to make a specialty of higher counts, using only American and Egyptian; it started the importation of Indian cotton in 1893, with 4,700 kwan (38,856 pounds). This mill still makes the highest average counts in Japan, now averaging above 60s, though Egyptian cotton is now (1913) used in part by six other mills.

EXPANSION FOLLOWING THE WAR WITH CHINA.

By the time the industry was well established again and the mills were turning their attention to increasing their yarn trade in China, war broke out with that country. Business men at once took steps to place their affairs on a conservative basis, while new enterprises launched that year in consequence of the easy condition of the money market were brought to a standstill. The war, however, was of short duration—from August 1, 1894, to April 14, 1895—and then the receipt of a large indemnity and the glamour of victory disposed the public mind to new ventures. There was a large expansion of business, the cotton yarn export trade increased rapidly, and with a good home demand the mills made large profits and stocks reached new high levels.

Many new mills were started in 1895 and 1896, of which the most notable were the Fuji Boseki and the Tokyo Gas Boseki; the latter planned to make lisle, or gassed, yarns to compete with the rapidly increasing imports of such yarns. These mills were amalgamated in 1906 under the name of the Fuji Gas Boseki, now one of the largest companies of Japan. Of the other mills projected during this period (Sanuki, Kashu, Nippon Shokufu, Yao, Nippon Saishi, Tarui, Awaji, Sanshu, Banyo, Takasago, Harima, Akao, Ichinomiya, Kuwana, Tsu, Isetsu Saishi, Mino, Bizen, Nishidaiji, Fushimi, Heian, Fukuoka, Yamato, Washu, Kii, Yawatahama, Awa, Tosa, and Chugoku) only the Sanuki survives to-day under its original name; subsequently all the others either failed or became branch mills of stronger companies. The period following the war with China was one of great prosperity. In 1896 the plague broke out in Bombay, and this temporarily paralyzed the Indian industry, so that Japanese spinners found little competition in China and promptly trebled their exports.

ACUTE DEPRESSION IN 1897 AND 1898.

In 1897 the silver standard was abolished and gold was adopted. This created an unfavorable exchange with silver countries like China and prevented the exports from increasing rapidly. By this time, moreover, a reaction from the speculative boom following the Chinese War began, and though the industry was increasing in spindles and looms, and in both production and export, it was not on a stable basis. As money became tighter and tighter the banks not only raised their interest rates but exercised more caution in giving credit. The mills, having little fluid capital, found it difficult to finance their business; they called up the unpaid amounts on capital stock, but their stockholders were in no position to help them, and they also found it impossible to raise money by means of debentures. Many capitalists who had large holdings of mill shares had borrowed money on part of these shares with which to buy others, and in this way their stock holdings were altogether out of proportion to their actual means. With mills prosperous the shares were quoted very high, but as money tightened and shares fell in value the banks demanded increased margins. The shareholders, many of whom had difficulty in financing some separate business of their own, found it extremely hard to meet the call for margins, and even if they did so by selling part of the

shares or otherwise, they had nothing with which to pay additional calls from the mills.

As the mills had little working capital and banks refused them the usual accommodations, they had to resort to every possible expedient to keep running. Many of them got their directors to indorse their drafts, where such course was possible. To keep in operation, many mills were compelled to negotiate successive loans on the material being worked up. They stored cotton in bonded warehouses and borrowed money on it, taking up the raw material for one day's work only. When this material had been made into roving, the roving was packed and sent to the warehouse and the mill borrowed on the warrants. The next day the mill took delivery of enough roving for a day's spinning, and at night the yarn was packed and sent to the warehouse and another loan negotiated. Thus, three loans were negotiated on the material during its conversion into finished yarn, with heavy charges for interest, packing, cartage, etc. Some mills that enjoyed large credit from the cotton dealers obtained as much cotton as the dealers would give them on three to six months' credit; this they stored in bonded warehouses with which to raise working capital; with a rise in price, this method was to their advantage, but any drop increased their losses. To raise the quotations of their shares the mills had been paying as large dividends as possible, but this had been done by neglecting reserves and writing off little or nothing for depreciation. Hence, when the reaction came and the mills suddenly fell from the heights of prosperity to the depths of depression, it was found they had practically no working capital and no reserves to fall back upon. Many mushroom concerns failed, and as each failure made the banks more cautious in granting credit the situation became more difficult for those remaining, and their creditors became more insistent.

GOVERNMENT ASSISTANCE PREVENTS WIDESPREAD DISASTER.

There was danger of a widespread collapse in the spinning industry, and as this would have been disastrous to the entire country, the economic condition of which was growing worse each day, the Government thought that the time had come to extend aid.

In 1896 the Government had established the Hypothec Bank of Japan as a joint-stock company for the purpose of making long-term loans at a low rate of interest, secured by mortgages on immovable property, and this bank had opened in August, 1897. The Government ordered this bank to extend extraordinary help to industries that were in trouble, especially the textile industry, and to issue debentures for this purpose. At the same time the Government placed 5,000,000 yen at the bank's disposal in case the issue of debentures was not successful. The bank was instructed to proceed carefully in order not to cause undue inflation and to prevent the industries helped from relying too much on Government aid, thus doing more harm than good. The bank was instructed to investigate each case carefully before granting a loan and to consider whether the loan was justified by the mill's prospects.

The Hypothec bank officials met the mill men and others and instituted inquiries as to the resources and prospects of mills needing assistance and also engaged a competent engineer to make a valuation

of each. The amount to be loaned to a mill was fixed at two-thirds of the valuation put upon it by the expert, and the rate of interest was fixed at 8 per cent. Redemption was to begin after one or two years, the entire amount to be repaid in eight to nine years. The bank made it a condition of every loan that $1\frac{1}{2}$ per cent of the cost of the machinery should be written off each year for depreciation, and that 5 per cent of the net profits should be placed to a reserve fund before any dividend was declared.

The loans extended during May, June, July, and August, 1898, amounted to 2,371,000 yen, two-thirds of which was borrowed by the cotton industry alone and part of the remainder by other textile industries.

This extraordinary help extended by the Government steadied the economic conditions and put the mills on a better basis. Upon obtaining these long-term loans at the comparatively low rate of 8 per cent per annum the mills were able to pay off the short-time loans they had obtained from local banks at 10 to 12 per cent; they were also enabled to pay off the notes indorsed by their directors; to stop the losses due to storing cotton, roving, and yarn for short periods; and to improve their position in general. The repayment of the short-time call loans to local banks increased their cash in hand and this improved the condition of the money market and made credit easier, while the fact that the Government extended aid to the mills made creditors willing to hold off. The prices of mill shares again rose, and this bettered the position of many shareholders, as the margin required from them decreased. Altogether, this action by the Government saved the situation. In one way it improved the standing of the mills by the enforced writing off for depreciation and the accumulation of a reserve, as the mills that needed assistance most had previously been most neglectful of such requirements.

During 1899 yarn prices ruled low, but the mills had a fairly prosperous year. There was some expansion, though the Osaka Godo was the only new mill of importance founded at that time. Favored by the low yarn prices the exports reached a record that was not attained again until 1912.

EFFECT OF OVERPRODUCTION AND THE BOXER TROUBLES.

The mills began the year 1900 in a much better position, though the increasing production had rather flooded the market with an excess of yarn that could be taken care of only by continuing to extend the exports. Then the Boxer troubles suddenly broke out in China. The cost of yarn transport was increased thereby from 2.50 to 5 yen per bale and the marine insurance from 0.4 of 1 per cent to 1.2 per cent. As the trouble occurred in the section where Japan had been finding an outlet for a large portion of its shipments, exports suddenly dropped and the mills had to market most of their surplus at home. On account of the export of gold due to the adverse trade balance, the Bank of Japan had to raise its interest rates and money became tight. Those who had bought during the prosperous times had to sell at a loss and industrial shares were thrown on the market. The ensuing depression affected the whole country and the mills could not market their product. Most of the companies still had little working capital and in spite of the aid extended by the Govern-

ment in 1898 were in an insecure position. As they could get no further credit from the banks, many failed.

An extraordinary meeting of the spinners' association was called June 16, 1900, and it was decided to ask the Government again for assistance, especially for those mills whose difficulties were due to stocks of yarn for which they could find no market. The mills approached the Government, requesting aid on the ground that their money was tied up in permanent investments and in stocks of unsold goods and that they could not obtain sufficient working capital from the regular banks. The Government, however, refused on the ground that their unsound financial condition was due to their neglect of ordinary business precautions, and advised them to improve their methods of financing.

FIRST LIMITATION OF PRODUCTION.

On July 15, 1900, the association held another special meeting and decided to limit production. All mills making coarse yarns of No. 20 and under were ordered to stop all night work from June 25 to December 31. Mills that for certain reasons objected to the stoppage of night work were allowed to substitute the entire stoppage of 40 per cent of their spindles. Breach of this obligation involved a fine of 1 yen a day for each spindle so operated, and the chairman of the standing committee was also authorized to ask for the expulsion of the offending mill from the association. The cost of the inspection necessary to the strict enforcement of these rules was to be levied on each mill in proportion to its annual dues to the association, and the fines were to be used for the same purpose.

On October 18 it was debated and decided to continue the short time to the end of the year, and on December 17 it was decided to prolong short time to March 31, 1901. The exports of yarn and yarn prices had improved somewhat since October, but this was not considered sufficient to justify full production.

On account of the difficulty in keeping their help together many mills changed from stoppage of night work to the complete stoppage of 40 per cent of their spindles. Three mills stopped work entirely, but 11 mills were not affected by the short-time rules, as they made yarns finer than No. 20. On April 1, 1901, the mills resumed full time.

At the meeting on April 26, 1901, a resolution proposed by the Kanegafuchi company was carried to the effect that every mill at the end of the month should telegraph the office of the association its production of No. 20 yarn, and that the total be made known to all the mills, in order to stop the tremendous fluctuations of yarn prices in time transactions on the exchange. A fine of 5 yen was imposed for every delayed report.

At the meeting on June 3, 1902, it was proposed either to form a syndicate to regulate yarn prices in the interior and to force up exports or to elect a committee to investigate the question of amalgamation. The first proposition was postponed for further investigation, but the second was carried, though never put in force. Finally, it was decided to limit the production again by stopping four days and four nights every month for six months from July 1, 1902,

the penalties being the same as during the previous short time. It was also decided to promote the exports of yarn and cloth by means of premiums.

AMALGAMATIONS DURING 1899-1903 PERIOD.

The increase in the number of mills and in production during the boom following the Chinese War had caused during the ensuing years an ever-increasing competition. Mills short of working capital suffered most, and this was especially noticeable whenever money became tight or the export trade fell off. The various expedients of working short time, promoting exports with premiums, etc., had effected little improvement and the general situation forced many of the weaker mills to amalgamate with the stronger ones to avoid outright failure. From 1899 to 1903 was especially a period of amalgamation. In 1899 the Kyushu absorbed the Kurume and Kumamoto, and the Okayama absorbed the Seidaiji. In 1899 the Kanegafuchi absorbed the Kashu, Shimajima, Awaji, and the Shanghai Spinning Co., and in 1903 added the Kyushu, Nakatsu, and Hakata. During this period the Osaka Godo took over the Temma, Chugoku, and Meiji; the Kyoto Flannel took over the Kyoto Spinning; the Miye absorbed the Ise; the Settsu took the Yamato and Hirano; the Kishiwada took the Senshu; the Fukushima took the Fukuyama; and the Fuji took over the Onagigawa Weaving and the Nippon Keumen. This tendency to amalgamate has been evidenced in the Japanese industry both before and since this period, but never on such a wholesale scale.

The amalgamations increased the number of spindles and operatives under one head, and the larger concerns were able to effect improvements that tended to decrease their cost of production as compared with smaller concerns, such as getting more favorable terms by purchasing raw material, coal, and supplies on a larger scale, by employing the most competent managers, by improving their conditions of employment, housing, etc., so as to pick a better class of operatives, and by adjusting larger bodies of machinery to the work for which it was best fitted and avoiding the more frequent changes necessary in a smaller mill.

GOLDEN ERA OF THE INDUSTRY.

After two or three years of depression and changes, the mills again began to get on a good basis in 1903, but they were unable to expand greatly owing to unsettled conditions due to the threatened war with Russia. When war was finally declared in 1904 there was at first a temporary decline, as the outcome was regarded with uncertainty, but with the gaining of a few initial successes the nation began to be more confident; the rice crop in that year was the greatest yet known, amounting to 51,000,000 koku, wheat was bountiful, and the cocoon crop excellent. Aided by these factors the home demand increased, and soon the great demand for yarns to make cloths for the army caused the mills to work at full capacity. As most of the operatives were women and girls there was little trouble as to help;

in fact, by depriving women of their breadwinners, the war caused many to seek work in the mills.

With the resultant victory and the treaty of peace signed September 5, 1905, the cotton and other industries were stimulated and the opening of new markets to their trade aided the boom. From the middle of 1904 to the middle of 1907 the mills had the greatest boom of their history and made huge profits; in fact, this is generally referred to as the "Golden Era" of the Japanese cotton industry.

During this flush period 11 weaving and spinning mills were formed, with a nominal capital of 21,500,000 yen, of which 4,025,000 yen was paid up. Twelve mills increased their capital by 11,269,950 yen (the Fuji doubling its capital twice), of which 8,768,950 yen was paid up. Three mills issued debentures, for improvements and additions, amounting to 950,000 yen, and various mills planned increases that were realized later. During this period the increase was in the extension of existing mills rather than in the establishment of new plants, or just the reverse of conditions in the period following the Chinese War.

In spite of the boom yarn exports did not increase, which was due partly to the improved demand at home for yarn for use on hand-looms and on the increasing number of power looms, and partly to the higher prices, which, with increased yarn shipments from India, made competition difficult on the Chinese market.

REACTION IN 1907 AND FOLLOWING YEARS.

The prosperity after the Russian War, like that after the Chinese War, was followed by a reaction, and there were significant fore-shadowings of this early in 1907, though it did not set in with full force until a little later. The money market began to tighten from the numerous demands on it caused by the many new industries and the numerous extensions, domestic loans, issue of exchequer bonds to meet the Government needs after the war, etc. The extensive credit granted during the boom was gradually curtailed and the mills again began to find it difficult to get accommodations. The value of industrial shares declined and several small banking firms failed. In consequence of the threatening outlook various weaving establishments began to limit their production, but in spite of unfavorable economic conditions the spinning industry did fairly well up to the middle of the year. In October there was a money crisis in New York and silver prices dropped suddenly; with these added influences against it the Japanese industry, which had been running before the wind for three years, began to slow down. It was found difficult to obtain an outlet for the increased yarn production and prices fell, while, in response to an increased world demand, the price of cotton remained high, and the poor harvest in India especially affected the Japanese mills.

However, at the beginning of this depression, the mills were in a more favorable position to endure it than ever before. Previous to the Russian War many mills had paid little attention to the question of depreciation, but the great profits made during the "Golden Era" had enabled them not only to write off large amounts for depreciation but to strengthen their reserve funds considerably and to keep up their share quotations by paying large dividends.

SHORT-TIME WORK ORDERED IN 1908.

The effects of the depression beginning in 1907 lasted several years, in fact, 1908, 1909, 1910, and 1911 were periods during which the mills, though expanding gradually, worked more or less short time, and this continued even into 1912.

In 1908 the mills met the situation by suspending five days and nights a month during February, March, and April. A lottery system was also started to encourage the Chinese to buy coarse yarns. On May 1, 1908, the association ordered all coarse-yarn mills, with the exception of those weaving their yarn into cloth to be exported, to suspend $27\frac{1}{2}$ per cent of their total spindles and appointed inspectors to see that this was adhered to. This suspension lasted until October 31, 1909. In spite of these expedients yarn prices continued to decline during the first part of the year, and as the mills were working on high-priced cotton bought during the preceding year, all suffered, except a few fine-yarn mills, and lost money on every pound of yarn turned out. In May, 1908, the price of yarn was lower than it had been since 1903, but cotton had also fallen until it was lower than for several years past, and as by that time the mills had used up their stock of cotton and were able to replace it with cotton bought at a lower price, their condition began to improve somewhat; moreover, from May on, the price of yarn showed a tendency to rise. During the year, however, both yarn and cloth exports, influenced largely by the unfavorable exchange created by a heavy drop in the price of silver in China, declined considerably, so that the year as a whole was very unfavorable.

During 1908 the price of Indian Broach in Japan averaged 27.456 yen per 100 kin, and American cotton 35.99 yen per 100 kin, while the average price of 20s warp was 108.27 yen per 400-pound bale. With a manufacturing cost of about 20 yen per bale, the mills were not able to make much profit with the usual mixture of one-fourth American and three-fourths Indian. Consequently many mixed in considerable quantities of the cheaper but harsher Chinese cotton, but the yarn produced was so inferior that much of it was found unsalable.

In the latter part of 1908 the money market began to improve, as owing to unfavorable commercial conditions there was little demand for capital for new enterprises and the domestic loan was being reduced. The yarn demand that had been held back since the spring began to make itself felt gradually, while the available supply had been decreased by the short time and also somewhat by the large amount of unsalable yarn produced by the mills in their efforts to cheapen production. In the last two months of 1908 and the first part of 1909, however, the demand again declined. After March business again picked up and with improved export conditions for both yarn and cloth the price of yarn increased and reached a much higher level than in the preceding year. The export of yarn was benefited by the scheme adopted by the Japan Cotton Spinners' Association of paying a bounty to the mills on all coarse yarns exported.

CONTINUANCE OF SHORT TIME DESPITE TRADE EXPANSION.

With the improvement in the home and foreign markets the mills became more confident, and a considerable number of new spindles and looms were added during the year. In spite of the improved conditions the increased output due to the addition of new spindles was still too large for the demand, and with a great rise in the price of cotton the mills on November 1, 1909, decided to continue short-time operation, though the percentage of spindles to be stopped was decreased from $27\frac{1}{2}$ to 20 per cent. This short time lasted until September 1, 1910.

In 1910 there was a large expansion in the export trade in both yarn and cloth. Yarn prices rose to a much higher level, but the cost of cotton ruled so high that the mills were not able to force up the price of yarn to a point that would afford them much profit, so they decided to continue and to increase their short time. On October 1, 1910, the association ordered $27\frac{1}{2}$ per cent of the spindles stopped, and this suspension was continued until March 31, 1912. During the same period the association extended its bounty system to include exports of both fine and coarse yarns as well as of cloth made of coarse yarns.

Yarn ruled very high at the opening of 1911, but it gradually declined, though the general level was higher than in 1910. Yarn exports, which went mostly to Central China, decreased by reason of the Chinese revolutionary disturbances and the famine in the Yangtze Valley. The cloth exports were not so much affected, in fact they were rather aided by the disturbances, which interfered with the Chinese home weaving, and the exports to Manchuria through Dalny increased largely. Korea had also been annexed to Japan and the exports thereto, though now classed as domestic trade, increased tremendously.

During 1912 the exports of both yarn and cloth reached new levels. China, the main outlet, was becoming more settled and confident under the new Republic and exchange had become more favorable. The association decided that under these conditions the export trade needed no further encouragement, and after March 31, 1912, the export bounties on yarn and cloth were discontinued; at that time the suspension of spindles was also annulled, with the exception of a stoppage of only four days and nights a month for six months, and after September 30, 1912, all restrictions were removed and the mills have since operated full time. During 1912 few new spindles were put in operation, but large numbers were ordered and these began running in 1913.

EFFECT OF SHORT TIME ON DEVELOPMENT OF INDUSTRY.

During the period of varying short time in 1908, 1909, 1910, and 1911, the existing mills, ever hopeful of better conditions, had gradually increased their spindles, but the fact that the industry worked short time did not encourage outsiders to venture in and few new mills were established. With the greatly improved conditions in 1912, and especially after the mills had started on full time again,

several new mills were projected for 1913. Part of these were placed in operation during the year, but in the fall fear was expressed that the increase in production from all mills running full and from new mills started, would result in overproduction, and some of the projected mills were abandoned and others postponed to await developments. The short-time years encouraged rather than retarded the installation of looms, as the cloth mills did better than the yarn mills. The association, with a view to evening up the discrepancy between weaving and spinning and to increase the outlet for yarn, exempted from the short-time regulations all spindles making yarn to be woven in the factory concerned into cloths for export.

During 1913 the prosperity that started to make itself felt so strongly during 1912 continued in full force, and the mills increased their export business greatly and made large profits. With higher cotton and the fear of the increased production overtaking the demand, however, the mills seem to be trimming their sails for whatever may come and are not now declaring (in December, 1913) as huge dividends as their stockholders think justified in view of the large profits. Yarn and cloth prices ruled very high during 1913, reaching new levels, though there was some decline in the latter part of the year from the high-water mark of August.

CHIEF FACTORS AFFECTING DEVELOPMENT.

In the upbuilding of the Japanese cotton industry the mills have been greatly hampered by lack of money and experience, as well as by the lack of skilled operatives and the difficulty, under their system of transient girl operatives, of creating and maintaining a trained force. The first cost of the mills is so great that, with high interest charges and high taxes, which have been greatly increased since the Russian War, the manufacturers have resisted all attempts by the authorities to enact regulations that would interfere with night work.

The mills have been greatly favored by a supply of extremely cheap labor and by freedom from laws prohibiting long working hours. They have also been enabled to keep down the cost of raw material by varying the mixings and thus setting off one cotton against another in a way that is not permissible in countries making the higher classes of goods that require a single grade of cotton.

Most of the yarns and cloths produced by Japanese mills are made from a mixture of Indian, American, and Chinese cotton, and the low cost of raw material thus obtained seems to aid the manufacturers in their struggle for the Chinese market as much as does their cheaper labor, especially as the labor is very inefficient. Japan ships cotton yarns and cotton goods to many countries, but its one large market is China, where it finds competition on yarn from India and cloth from the United States. The publications of the Japan Cotton Spinners' Association, as well as remarks by spinners, indicate that they fear the future competition of Chinese mills more than they do the American and Indian. The Chinese cotton industry is small but developing, and if the tariff is raised, as now proposed, the Chinese may quickly become a strong factor in the situation. For this reason the

Japan Cotton Spinners' Association has already petitioned the Government to use its influence against any increase in the low customs duties of China.

PRESENT STATUS OF COMPANIES.

The status of all cotton-spinning companies in Japan on June 30, 1913, as shown by the Japan Cotton Spinners' Association, was as follows:

Companies.	Capital.		Reserves.	Spindles.			Looms.
	Authorized.	Paid-up.		Ring.	Mule.	Twisting.	
LIMITED LIABILITY.							
	Yen.	Yen.	Yen.				
Kanegafuchi.....	15,927,650	12,646,290	7,155,275	406,856	.....	51,448	4,475
Miye.....	10,250,000	7,768,450	4,726,913	272,824	.....	14,432	5,312
Fuji Gas.....	16,000,000	11,999,250	2,618,912	164,288	27,640	44,424	972
Settsu.....	3,500,000	2,652,800	3,350,000	156,552	1,260	.....	.....
Osaka Godo.....	4,000,000	4,000,000	1,048,000	140,156	.....	23,096	400
Osaka.....	5,000,000	4,687,500	1,900,000	134,340	.....	7,752	4,554
Nippon.....	2,750,000	2,750,000	1,421,394	106,612	13,800	53,120	.....
Tokyo.....	4,800,000	4,800,000	288,759	110,388	.....	28,308	884
Amagasaki.....	5,000,000	2,840,000	2,132,242	100,992	.....	31,400	1,783
Kishiwada.....	2,400,000	1,799,725	1,377,000	96,840	.....	.....	.....
Fukushima.....	1,356,250	1,356,000	950,000	82,976	.....	.....	.....
Nisshin.....	10,000,000	3,500,000	175,000	67,320	.....	27,836	.....
Kurashiki.....	1,500,000	1,050,000	510,000	59,032	.....	.....	.....
Wakayama.....	1,300,000	1,300,000	344,506	57,496	.....	6,600	752
Sakai.....	1,200,000	900,000	403,118	39,328	.....	1,500	800
Naigai Wata.....	5,000,000	3,125,000	1,883,206	29,412	.....	1,584	933
Tokyo Calico.....	2,000,000	2,000,000	107,000	28,464	.....	.....	688
Nippon Seifu.....	2,500,000	2,313,469	180,045	12,672	6,660	.....	450
Ehime.....	875,000	568,750	35,000	16,084	.....	1,920	.....
Temma Orimono.....	1,000,000	950,000	194,000	14,080	.....	.....	776
Sanuki.....	450,000	390,000	156,400	10,728	.....	.....	.....
Matsuyama.....	750,000	375,000	169,600	10,368	.....	.....	.....
Osaka Orimono.....	700,000	700,000	16,300	7,392	.....	3,800	400
Sanyo.....	1,000,000	400,000	3,500	6,912	.....	1,064	.....
Ki-Yo Shokufu.....	500,000	500,000	56,689	5,312	.....	.....	300
OTHERS.							
Meiji.....	1,000,000	1,000,000	.....	32,064	.....	3,080	.....
Ozu Hosoi to.....	400,000	400,000	.....	20,496	.....	8,308	.....
Takaoka.....	100,000	100,000	10,000	10,920	.....	.....	.....
Terada.....	500,000	500,000	.....	10,080	.....	.....	.....
Shikama.....	70,000	70,000	.....	8,312	.....	.....	.....
Handa.....	80,000	80,000	.....	4,992	.....	.....	.....
Owada.....	50,000	50,000	.....	4,484	.....	.....	304
Watanabe.....	100,000	100,000	.....	2,720	.....	.....	.....
Kawashima.....	100,000	40,000	.....	2,372	.....	.....	.....
Kaizuka.....	100,000	100,000	.....	2,304	.....	.....	.....
Shimada.....	77,500	77,500	.....	1,736	.....	.....	.....
BUILDING.							
Asahi.....	5,000,000	1,658,175	.....	.....	.....	.....	.....
Izumi.....	1,500,000	750,000	.....	.....	.....	.....	.....
Oita.....	1,500,000	375,000	.....	.....	.....	.....	.....
Hinode.....	1,200,000	300,000	.....	.....	.....	.....	.....
Naniwa.....	1,000,000	350,000	5,000	.....	.....	.....	.....
Banshu.....	1,000,000	250,000	.....	.....	.....	.....	.....
Nagasaki.....	1,000,000	250,000	.....	.....	.....	.....	.....
Osaka Meriyasu.....	600,000	450,000	.....	.....	.....	.....	.....
Mishima.....	500,000	250,000	.....	.....	.....	.....	.....
Total.....	115,536,400	82,522,909	31,217,859	2,237,904	49,360	309,672	23,783

On June 30, 1913, the cotton mills of Japan had a total of 2,287,264 spinning spindles (including ring and mule), 309,672 twisting spindles, and 23,783 looms. The number of mule spindles is small and tends to decrease, absolutely as well as relatively.

IMPROVEMENT IN FINANCES—CONTROL OF CHINESE MILLS.

The total paid-up capital was 82,522,909 yen (\$41,096,408), of which 77,889,734 yen (\$38,789,087) represented the capital of the active mills and 4,633,175 yen (\$2,307,321) the capital of mills being built. The complete first cost of a spinning mill, without weaving, is given as 50 yen, or about \$25, per spindle, and of a weaving mill alone as about 800 yen, or about \$400, per loom, but as a whole the industry shows a much lower capitalization per spindle. This is especially true of some of the larger mills, and it shows how the financial position of the mills has improved over what it was before the Russian War. Since that time not only have increases been largely paid for out of profits, but the reserve funds have been raised greatly. The reserve fund of the largest companies runs into the millions of yen, and that of the Settsu is larger than its paid-up capital.

In addition to factories in Japan, some of the Japanese companies control mills in China. The Kanegafuchi owns a controlling interest in the Shanghai Spinning Co. by reason of 10,000 shares (20 taels paid for each share) that it took over from the late Kennshi Boseki Kaisha. This mill is stated to have about 60,000 spindles and 520 looms. Mitsui Bussan Kaisha is the selling agent. Mitsui Bussan Kaisha also controls the Wuchang Spinning Co., with 90,000 spindles and 750 looms. The Naigai Wata Kaisha conducts a 20,000-spindle mill at Shanghai and the Nippon Boseki an 18,000-spindle mill at the same place. The latter is being extended. In addition, the Japanese are interested in other Chinese mills and it is reported that a mill is projected, by Japanese and Chinese jointly, at Tientsin.

LOCATION OF MILLS.

The first mills in Japan were located mainly with reference to the local cotton fields and the centers of the hand-loom weaving industry. After the Chinese War labor became so scarce by reason of the increased demand that many of the mills were placed with reference to a supply of help; the Sanuki mill, opened in 1896 on one of the larger islands, is typical of these. Examples of mills located with reference to cheap motive power are the Fuji, at the foot of Fujiyama, which avails itself of the water power there developed, and the Miye mill, in Chikugo, which was located in the neighborhood of one of the largest coal-producing centers of Japan. As the industry came to rely exclusively on imported cotton, and as the export trade developed and internal transportation facilities increased, the mills gradually began to locate near the most favorable selling centers in order to be in close touch with the market. Osaka is the great center of the cotton trade and is also favorably situated for export business, hence the larger number of the mills are grouped around that city, with another group around Tokyo, where they are in close touch with the greatest financial center and also convenient to Yokohama. More recently, with the growing difficulty of securing help and the improvement in transportation and telegraph facilities, etc., for keeping in touch with the market, some of the mills have begun to locate with reference to the labor supply as considered in connection with a convenient port.

OSAKA THE CENTER OF INDUSTRY.

About three-fourths of the spindles are now contained in the Prefectures of Osaka, Tokyo, Hyogo, Aichi, Shidzuoka, and Okayama, in the order stated. The city of Osaka, which the Japanese call the "Manchester of the East," is the center of the industry. Osaka with some 1,500,000 inhabitants is the second city of Japan, ranking next to Tokyo, and it is increasing at a rapid rate. It not only contains the largest number of spindles but is the center for buying and selling cotton, cotton yarn, and cotton cloth; it is the headquarters of the largest dealers, of the Three-Products Exchange, and of the Japan Cotton Spinners' Association. Some of the goods are exported direct from Osaka and some through Kobe, which lies some 20 miles down the river, so that these two constitute practically one port for the cotton industry. Yokohama is the greatest export port of Japan, owing to the shipment of raw silk, while Kobe ranks as the largest import port owing to its receipts of raw cotton; but Kobe is also steadily increasing as an export center with the growth in the exports of cotton manufactures. The bankers of Tokyo take the exports of raw silk as a barometer of the prosperity of their section, while the Osaka bankers take the exports of cotton goods as the barometer of prosperity in central Japan.

Since June 30, 1913, the number of active mills has been increased by the placing in operation of the Osaka Meriyasu (Osaka Knitting) with 10,048 spindles, the Oita with 16,648 spindles, the Hinode with 12,000, and the Izumi with 10,000. Spindles have also been added by the Osaka, Settsu, Miye, Sanuki, Wakayama, and others; during December the Mishima was expected to start with 12,000 spindles and further additions are to be made in several other mills. The Asahi, which was started to make cloth for the Manchurian trade, has been absorbed by the Kanegafuchi. In view of the great increase in the export trade the mills are expanding and by June, 1914, expect to have some 2,500,000 spindles in operation. As they work night and day these are equivalent to more than 5,000,000 spindles in other countries working only in the day and shorter hours.

PRINCIPAL MILLS.

Japanese cotton-spinning mills vary in size from one of 406,856 spindles to one of only 1,736 spindles. The leading spinning company is the Kanegafuchi, which is followed by the Miye, Fuji Gas, Settsu, Osaka Godo, Osaka, Nippon, Tokyo, and Amagasaki, all of which have over 100,000 spindles. Of the 36 active mills only 16 contain looms; of these, the Miye, Osaka, Kanegafuchi, and Amagasaki have over 1,000 each. There are no companies operating looms only, and companies having looms not only spin yarn for weaving but also make a surplus for sale.

MILLS OPERATED BY THE KANEGAFUCHI COMPANY.

The Kanegafuchi Boseki Kabushiki Kaisha—Kanegafuchi Spinning Company (Ltd.)—is the chief cotton-manufacturing company of Japan. On June 30, 1913, it was operating mills as follows:

Place.	Prefecture and Province.	Spindles.		Looms.	Port.
		Spinning.	Twisting.		
Sumida Mura ^a	Tokyo, Musachi.....	77,432	20,900	100	Yokohama.
Shibajima Mura.....	Osaka, Settsu.....	18,036	.....	.....	Osaka.
Suminodo Mura.....	do.....	10,368	.....	.....	Do.
Nakanoshima Mura.....	Wakayama, Kii.....	11,136	.....	.....	Do.
Kobe.....	Hyogo, Settsu.....	81,020	8,800	1,180	Kobe.
Takasago.....	Hyogo, Harima.....	31,520	.....	.....	Do.
Okayama.....	Okayama, Bizen.....	13,680	.....	973	Do.
Shimoishii Mura.....	do.....	39,432	15,400	.....	Do.
Nishi Odera Mura.....	do.....	10,624	.....	654	Do.
Sumoto.....	Hyogo, Awaji Island.....	35,872	6,040	1,012	Do.
Miike.....	Fukuoka, Chikugo (Kiushiu)	30,336	.....	.....	Moji.
Kurume.....	do.....	14,760	.....	.....	Do.
Hakata.....	do.....	11,520	.....	206	Do.
Kumamoto.....	Kumamoto, Higo.....	10,752	308	.....	Do.
Nakatsu.....	Oita, Bungo.....	10,368	.....	350	Do.
		406,856	51,448	4,475	

^a Mura is Japanese for village.

The distance by rail from the Kanegafuchi mill at Tokyo to their mill at Kumamoto, on the island of Kiushiu, is 825 miles, which may surprise some who think of Japan as a place of short distances because of its small area.

HISTORY OF KANEGAFUCHI COMPANY.

The Kanegafuchi company was organized in 1887, with a capital of 1,000,000 yen, and established its first mill, with 29,000 spindles, near Tokyo in the Kanegafuchi district of the village of Sumida. This district of the town lies along the river, and the story is that in old times a sacred temple bell was lost there in the river, hence the name Kane-ga-fuchi (Beach of the Bell) was applied to this district and therefore to the mill located there. The Kanegafuchi uses a temple bell as one of its cotton yarn brands.

Six years later the Kanegafuchi established another mill at Tokyo (Tokyo Mill No. 2), which was followed by the erection in 1895 of the Hyogo No. 1. Mill at Kobe. By 1899 the Kanegafuchi had 83,640 spindles. Then came the depression of 1900 and succeeding years, but as the Kanegafuchi was strongly backed it took over a large number of weaker mills that were in difficulties and emerged at the end of 1903 as the leading cotton-spinning company of Japan, with a total of 218,080 spindles and a capital that had been raised to 5,803,400 yen. It contained no looms until after the Russian war, when it began with 100 at Hyogo (Kobe). With the unprecedented demand for yarn and cloth after this war the Kanegafuchi began to make some of the finer yarns and also to pay more attention to weaving. It commenced a gassed-yarn mill at Tokyo in 1906, which was completed the next year.

In January, 1907, the capital of the company was doubled and a coarse-yarn mill of 28,860 spindles started at Takasago, as well as a silk-waste mill of 10,200 spindles at Kyoto. In August of that year the amalgamation of the Nippon Kemmen Boshoku Kaisha (Japan Silk & Cotton Spinning & Weaving Co.) with the Kanegafuchi raised the capital by 2,400,000 yen, and the company built another mill of

20,000 spindles at Sumoto. By further amalgamations and purchases the Kanegafuchi has increased to the 406,856 spindles and 4,475 looms of June 30, 1913, and it is now adding more spindles and has completed plans for taking over the new Asahi weaving mill, which was planned especially for the Manchurian trade. The Miye still exceeds it in weaving capacity, but the Kanegafuchi seems planning to become the leader in cloth as well as in yarn production. The Kanegafuchi pays dividends of 12 to 16 per cent, but it is conservatively managed and a large proportion of the profits is always placed to the reserve fund. In addition to its cotton business, the Kanegafuchi has five silk mills, located at Kyoto, Kamikyo, Shimikyo, Okayama, and Shimmachi, with a total of 56,032 spindles.

JAPAN COTTON SPINNERS' ASSOCIATION.

Upon the initiative of Mr. Okadi, manager of the Government cotton-spinning mill in Mikawa, representatives of some of the small mills of that time met in Osaka in August, 1882, to form an association. The object was to get acquainted and also to put a stop to price-cutting competition, from which all the mills suffered. After the association was formed the members met yearly on April 15, but nothing of importance was transacted except that in 1886 the mills agreed thereafter to use the English system of yarn numbering. The mill representatives met chiefly with the object of having a social time and of discussing matters connected with the technical side of the industry, as is the case with similar organizations in the United States and Europe to-day. The only obligation was that one mill should loan another operatives in case it was short of skilled help to train its green hands. The Osaka Boseki, with 10,500 spindles, was by far the largest mill, most of the others having 2,000 to 3,000 spindles, and there were only 14 mills in the organization.

CONDITIONS LEADING TO REORGANIZATION.

As the number of mills increased there was strong competition, especially from new mills which did not belong to the association and which tried to make use of their independent position. Yarn dealers took advantage of the situation and the industry in general suffered. At the same time Indian yarn offered strong competition on the home market and the mills singly were unable to combat it successfully. They therefore joined efforts to lessen competition as much as practicable in order to check the imports and to improve yarn conditions by a general agreement as to sales and production. At the invitation of the Osaka, Tamashima, and Owari companies, representatives of both new and old mills met in June, 1888, and a reorganization of the association was effected. The object of the association was stated, explicit rules were laid down to govern the conduct of all the mills in certain cases, and a standing committee was appointed as the executive authority. This was the sixth meeting of the manufacturers but really the beginning of the association of to-day.

RULES ADOPTED BY ASSOCIATION.

The various rules of the 1888 meeting were embodied in 36 paragraphs. The main principles laid down were as follows: The members were to foster mutual good feeling and cooperate with each other

in improving the position of the industry. They were requested to improve the quality of their yarns and to avoid the production of an inferior article, in order to retain the confidence of the consumers and to maintain the reputation of machine-made yarn. Any mill making yarn more than an eighth heavier than the count by which it was sold was to be warned by the committee. Every member was to submit to the association 10 skeins of No. 16 yarn made by his mill and a comparison was to be made as to the weight, the turns twist per inch, the firmness, the elasticity, and the general appearance. Regulations were made in case the consumers combined to interfere with the sale of the products of the association. Rather detailed conditions were laid down in regard to the treatment of operatives. Every member obligated himself to give a certificate to every good worker leaving his employ and to notify the other members in case of the discharge of unsatisfactory workers. Members thus notified were forbidden to employ the discharged workers, except with the permission of the mill that had discharged them. Members were forbidden to entice labor away from each other. Strikes were to be reported immediately and the names of the striking operatives, and such strikers could not be given employment in the industry. In case of a strike interfering with the work of a mill the association on request had to furnish enough labor to keep the mill in operation. Every mill was bound to accede to the request of another associated mill to furnish trained operatives to teach new workers, or else unskilled labor could be sent to another mill to be taught. Every mill had to make reports to the association monthly dealing with the conditions of production and changes in yarn quotations.

Further, it was decided to publish a monthly paper containing reports from the various mills and data in regard to cotton and cotton spinning at home and abroad. A committee of one was to be selected at every annual general meeting to represent the association and to be responsible for its general management and to take care of the deposits made by the members. The annual meeting was to take place, alternately at Osaka and Tokyo, on April 15. In case of trouble in the yarn market a special meeting should be called. Every member had to be present either in person or by proxy. Regulations were also made as to admission of members, resignations, expulsions, contributions, and liquidation of the association.

FINANCIAL ARRANGEMENTS.

Every member, on election, had to deposit a guarantee fund, in accordance with his number of spindles, as follows: Over 50,000 spindles, 700 yen; over 25,000 spindles, 500 yen; over 10,000 spindles, 300 yen; over 7,500 spindles, 250 yen; over 5,000 spindles, 200 yen; over 2,500 spindles, 150 yen; over 1,000 spindles, 100 yen; over 100 spindles, 50 yen.

Out of this guarantee fund Government bonds were to be bought and deposited in bank. Any increase in spindles necessitated an increase in the guarantee deposit. This deposit could not be used except with the consent of the association. In case of resignation the entire deposit was to be returned, and in case of a decrease in spindles a portion thereof.

Yearly contributions were apportioned according to the number of spindles as follows: Over 50,000 spindles, 70 yen; over 25,000 spindles, 50 yen; over 10,000 spindles, 30 yen; over 7,500 spindles, 25 yen; over 5,000 spindles, 20 yen; over 2,500 spindles, 15 yen; over 1,000 spindles, 10 yen; over 100 spindles, 5 yen.

The yearly contributions were therefore fixed at one-tenth of the guarantee money and special levies were to be in proportion to the ordinary.

Should a member break the rules of the association and thus do hurt to their mutual interests his name could be published in the daily papers, on consent of a majority of the members, and his guarantee money be forfeited in whole or in part. In such case he must bring up his guarantee money to the regular amount within one month.

These rules could be changed at a general meeting and rules and regulations carried by a majority at a general meeting were to be absolutely binding on every member.

The rules passed at the 1888 meeting came into force April 1, 1889, and were signed by all mills with the exception of the Kanegafuchi and Kurashiki, and these joined in June, 1889.

AMENDMENTS TO RULES IN LATER YEARS.

At the end of 1890 the rules were amended to permit the election of associate members, the following clause being added: Cotton and cotton-yarn dealers and cloth manufacturers whose interests are identical with those of the spinning mills can be elected associate members as representing either their enterprises or themselves. In the meetings they shall have the same rights as members, so far as discussion and voting are concerned.

In later years there were other changes in various paragraphs, of which it is only necessary to note that in 1896, taking effect August 1, 1896, the members of the association were forbidden to buy cotton through any dealer who had not been approved and elected an associate member.

GENERAL RULES NOW IN FORCE.

The rules laid down at the special meeting in October, 1902, are those in force to-day, and are as follows:

1. The association is called the Dainihon-boseki-rengokai (Japan Cotton Spinners' Association) and its office is in Osaka.
2. The object of the association is the mutual friendship of the members and the protection and encouragement of their mutual interests.
3. Spinning mills, weaving mills, or twisting mills wishing to join the association have to communicate with the association and first obtain the sanction of the president of the association. In addition, those producing cloth in the Japanese fashion, and also cotton dealers and cotton yarn dealers can be elected associate members.
4. Regular as well as associate members must make a guarantee deposit as well as share in the expenses of the association.
5. Regular and associate members can resign from the association at a week's notice.
6. Regular members can be expelled as the result of a general meeting, whereas associate members can be expelled by the standing committee.
7. The meetings are divided into two classes, ordinary and extraordinary. The ordinary meetings take place yearly in Osaka. At this meeting the yearly report in regard to the affairs of the association is published, also a statement of accounts rendered for the previous year, the budget of expenses for the next year discussed, and the standing committee of the association elected. Extraordinary meetings can

be called by the chairman of the committee or at the request of one-fifth of the members. Proposals to come before the ordinary general meeting have to be communicated to all the members two weeks ahead and proposals to come before an extraordinary meeting one week ahead of such meetings.

8. Members can vote by proxy, the proxy to produce a certificate showing that he is duly representing the member.

9. No definite motions can be passed at a general meeting unless there is a majority present. It is, however, permissible to adopt propositions provisionally. These have to be put before a new meeting to be called within one month. At such meeting the proposition can be adopted even without a quorum.

10. The associate members have the right of discussion and voting in general meetings when the object of the meeting is one that concerns both regular and associate members mutually. However, associate members have no voice in the election of the committee nor in the case of a proposition dealing with changes in the rules.

11. The regulations and order of business are entirely in the hands of the committee.

12. In the general meeting seven regular members are elected as a standing committee to manage the affairs of the association for the ensuing year. The committee elects the president. The salary of the president and also the fees of the other members of the committee are decided at the general meeting.

13. Any vacancy on the committee will remain unfilled unless the number of members decreases to less than three. When a committee is elected in an extraordinary meeting the rules concerning the election are the same as in ordinary general meetings.

14. The association has a secretary and several office assistants, whose nomination and discharge are in the hands of the chairman of the committee.

15. In regard to the guarantee deposits required under rule 4, one can deposit instead of money public bonds which are not in the name of the owner and of which the market value is at least equal to the amount of money required. The guarantee amounts required are according to the following basis:

	Yen.
Members possessing over 100,000 spindles.....	1, 000
Members possessing over 50,000 spindles.....	700
Members possessing over 25,000 spindles.....	500
Members possessing over 10,000 spindles.....	300
Members possessing over 7,500 spindles.....	250
Members and associate members whose enterprise is organized as a company, with over 5,000 spindles.....	200
Members possessing over 2,500 spindles and associate members whose enterprise is not organized as a company.....	150
Members possessing under 2,500 spindles.....	100

16. The association year begins July 1 and ends June 30 of the next year.

17. Ordinary and extraordinary contributions are paid by the regular members according to the number of their spindles. Associate members on a company basis are treated as if they possessed 5,000 spindles, all others as if they possessed 2,500 spindles. However, the apportionment of special contributions carried at the general meeting can be arranged according to a different method and some can be freed entirely from contribution.

18. The regular contributions are payable twice a year—viz, in June and December. These contributions are never repaid under any circumstances.

19. The calculation of the number of spindles mentioned in paragraphs 15 and 17 is on the following basis: One spindle for the production of yarn up to and including No. 28 counts as one spindle; every two mule spindles and every two spindles for the production of yarn from No. 29 to No. 38, inclusive, count as one spindle, (the diameter of the front rolls for these yarns is 1 inch); every three spindles for yarn from No. 39 to No. 60, inclusive, as also every three spindles of weft spinning machines, count as one spindle; every five spindles for the production of yarn above No. 60, as also every five doubling spindles, count as one spindle; every loom counts as five spindles.

20. Every regular member of the association has to report on prescribed forms the business condition, yarn production, and yarn trade conditions on the 5th of every month for the preceding month; they also have to furnish any information asked for by the association concerning these as far as possible.

21. Members can not engage workers under contract with a mill belonging to the association without the permission of the mill where they are engaged being obtained.

22. With the object of excluding heavily-watered Chinese cotton a testing laboratory is maintained by the association. A special account is kept for this laboratory and its rules are made by the committee.

23. The conditions of the cotton contracts between regular and associate members are laid down in a special form.

24. The association can be liquidated only by a majority of over three-fourths of the regular members.

25. The rules can be changed, except as in paragraph 24, only through a motion at a general meeting.

In addition to the above 25 rules as passed in 1902 ordinary parliamentary rules were prescribed in regard to the conduct of meetings.

REPORTS REQUIRED.

The detailed reports mentioned in paragraph 20 are as follows:

1. Regular members have to return by the 5th of the following month, on blanks drawn up by the association, the following: (a) Report showing the business results of the month; (b) report showing the production of yarn for the month; (c) report showing the production of cloth for the month; (d) report showing the yarn exported during the month.

2. Regular members have to report either by telegraph or telephone, on the second of every month the total number of bales of No. 20 warp and of No. 16 weft, as also the total yarn, produced in the previous month. Should the second day be Sunday, then the reports have to be made by the third.

3. Regular members have to make semiannual reports, viz, January 15 and June 15, concerning the following: (a) The consumption of ginned cotton; (b) the amount of yarn exported; (c) the stock of cotton at the end of the half year (this not to be published in connection with the name of the mill); (d) the quantity of each kind of cloth produced on power looms; (e) the financial results of the business (when not possible in exact figures, then an approximation).

4. When members or associate members have imported cotton from Bombay, Tuticorin, or Colombo, they have to inform the association, on the arrival of every ship, the number of bales, the port of shipment, kind of cotton, and marks and numbers.

5. Members or associate members, who have bought or delivered such cotton from the 1st to the 31st of the month have to report to the association the quantities and qualities by the 5th of the following month. Members or associate members who have bought or sold Chinese cotton have to report the quantities by the 5th of the following month.

EFFECTIVE ORGANIZATION.

The foregoing detailed rules, as translated from the report of Dr. Hikotaro Nishi on the Japanese spinning industry, show a very close organization. In other cotton-manufacturing countries there are associations among the manufacturers, but none so compact and unified as the Japanese and none where the rules and penalties as laid down by the majority have been so strictly enforced.

One factor that has held the association together and caused the mills to adhere to regulations which in many cases were against their financial interests individually is the cotton contract, previously detailed, whereby the Nippon Yusen Kaisha is given the entire transportation of Indian cotton and grants rebates to members of the association, any mill resigning or being expelled from the association therefore having to pay an increased price for its chief raw material. These rebates are paid direct to the association and distributed by it to the members concerned, and as the yearly rebate runs up into the hundreds of thousands of dollars this gives the association a lever that can be used at any time, at the will of the majority, in promoting exports; in fact, it has been so used several times. In the second half of 1909 the regulations made by the majority, at the instance of the mills of the Kwansai section, around Osaka, for promoting exports at the general expense of the association and for

short-time working were considered by the fine-yarn mills of the Kwanto section around Tokyo as against their interests, for the fine-yarn manufacturers found their market at home and were able to market their full production. Fear of losing the rebates, however, kept them from withdrawing from the association and finally their objections were overcome by a compromise. This was aided by the Nippon Yusen Kaisha, which could not afford to lose the contract with the association in order to please a smaller group, yet which did not wish to alienate the latter.

ASSOCIATION'S PART IN DEVELOPMENT OF INDUSTRY.

The Japan Cotton Spinners' Association has been a leading factor in the development of cotton manufacturing in Japan, the more so as it has been in a position to make its decrees effective. Probably its most important meeting after the general reorganization in 1888 was the conference of 1890, when the first general short time was ordered and when regulations were laid down in regard to the promotion of an export trade in cotton yarn, the use of better raw material, the manufacture of finer counts, the combating of imports, the improvement of the financial position, and other subjects that have been the basis of much of the work accomplished since that time. It established the exchange for cotton, cotton yarn, and cotton cloth, which was opened at Osaka January 21, 1894. The efforts of the association to have the export duty on yarn and the import duty on raw cotton abolished were finally successful on July 1, 1894, and April 1, 1896, respectively, and the association was also influential later in obtaining higher duties on imported yarns and cotton manufactures. The association made the rebate contract with the Nippon Yusen Kaisha in 1893 and has since renewed this yearly. On August 1, 1896, it took steps to stop the importation of excessively watered Chinese cotton and also refused to deal with cotton merchants who were not approved and accepted as associate members. In 1898 it persuaded the Government to extend financial aid to the mills and in June, 1899, obtained Government assistance in facilitating credit on yarn exports, which made the exportation of yarn much easier. Since then it has ordered several short-time periods to meet varying conditions and has tried various expedients to promote exports. The association was also largely responsible for many of the amalgamations in the Japanese industry, and its influence has deterred the Government from enacting a law to restrict the work of women and children.

Without its compact organization and the regulations and strict penalties enforced by the association it is certain that the Japanese cotton industry would not have been able to attain the position it holds to-day. A few mills would have been able to withstand the various crises through which the industry has passed, but they could not have regained their position so easily, while the progress of the industry would have been slower and marked by more failures.

The Japan Cotton Spinners' Association became a member of the International Federation of Master Cotton Spinners and Manufacturers' Associations in 1907, in accordance with a resolution passed at the general meeting of April, 1906.

PUBLICATIONS.

The Japan Cotton Spinners' Association publishes data in regard to the industry that are much more detailed than any published by the Japanese Government, or by any other Government, not excepting in most respects the census of manufactures taken by the American Government. On the 25th of every month the association issues a printed pamphlet of some 30 pages giving the details of spindles operated, total operatives, wages, etc., in every mill in the country, and also including many articles on the home and foreign trade. Especial attention is given to market and consular and other reports on the Chinese demand. Every six months the association issues a résumé of the preceding half year (with, in many cases, a 10-year comparison) showing the following details:

1. Authorized capital, paid-up capital, reserve funds, ring spindles, mule spindles, twisting spindles, and looms in each mill in operation or being built.
2. General business condition of spinning, showing spindles in active operation, average yarn produced, yarn produced in total and per spindle, waste made, coal consumption, average price of coal, total operatives, and average wages.
3. List of each kind of raw cotton used by each mill.
4. List of all raw cotton imported from each country.
5. Number of bales of yarn of each count and kind (weft, warp, ply, or gassed) produced by the industry.
6. Number of bales of yarn produced by each mill.
7. Yarn imports, by countries.
8. Cotton yarn produced, imported, exported, and remaining for consumption in the country.
9. Stocks of cotton yarn in Kobe and Osaka warehouses.
10. Amount of money borrowed on promissory notes, and on promissory notes with security, from banks in Kobe and Osaka.
11. Prices, highest, lowest, and average, for cotton yarn Nos. 16 and 20, and for Indian Broach and American Upland cottons at Osaka.
12. Cotton-yarn exports, by countries.
13. Bales of each yarn count exported by each mill.
14. Highest and lowest prices realized on the Shanghai market for the leading brands of Japanese yarns.
15. Comparison of bales of Indian and Japanese cotton imported into Shanghai.
16. Price of silver in London and exchange at Shanghai.
17. Cloth production of each weaving mill showing number of active looms, days operated, hours per day, yards of cloth woven, yarn consumed, waste made, total number and average wages of operatives.
18. Production in yards of each kind of cloth by each weaving mill.
19. Exports of cloth, by varieties.
20. Imports of cloth, by countries.
21. Exports of cloth, by countries, including that "transferred" to Korea (Chosen).
22. Knit-goods exports, by countries.
23. General condition of business of all limited-liability spinning companies, showing for each the authorized and paid-up capital, the reserve fund, liabilities, permanent investment, depreciation written off, amount brought forward from last account, net profit, dividends paid, amount deposited to reserve funds this period, amount carried forward, and rate of dividend.
24. Mill-share quotations on Osaka Stock Exchange, highest, lowest, and average, for this period.

In addition there is a charted diagram showing for the last 10 years (with exact figures on the back) the progress in bales of yarn produced, bales of yarn exported, market price of No. 20 yarn, price of Indian Broach cotton, and Shanghai exchange in taels per 100 yen.

With this detailed information at his disposal the average Japanese cotton manufacturer probably knows more about the progress of his industry and can judge better the course of supply and demand at home and abroad than cotton manufacturers in any other country.

PRODUCTION AND CONSUMPTION OF YARN.

CHRONOLOGICAL SUMMARY.

According to statistics published by the Japan Cotton Spinners' Association the production and consumption in Japan of machine-made cotton yarn have been as follows, in bales of 400 pounds each:

Years.	Supply.			Exports.	Used in Japan.
	Produc-tion.	Imports.	Total.		
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
1868.....	1,500	12,196	13,696	.....	13,696
1869.....	1,500	19,727	21,227	.....	21,221
1870.....	1,500	29,542	31,042	.....	31,042
1871.....	1,983	26,561	28,544	.....	28,544
1872.....	2,182	43,446	45,648	.....	45,648
1873.....	2,182	31,761	33,943	.....	33,943
1874.....	2,182	34,962	37,144	.....	37,144
1875.....	2,182	44,978	47,160	.....	47,160
1876.....	2,182	49,000	51,182	.....	51,182
1877.....	2,182	50,118	52,300	.....	52,300
1878.....	2,182	91,314	93,456	.....	93,496
1879.....	2,714	78,571	81,285	.....	81,285
1880.....	3,246	95,324	98,570	.....	98,570
1881.....	4,310	92,421	96,731	.....	96,731
1882.....	7,502	84,324	91,826	.....	91,826
1883.....	11,625	82,135	93,760	.....	93,760
1884.....	13,221	70,683	83,844	.....	83,844
1885.....	15,881	71,385	87,206	.....	87,206
1886.....	15,568	82,101	97,669	.....	97,669
1887.....	23,159	110,988	134,147	.....	134,147
1888.....	31,862	158,132	189,994	.....	189,994
1889.....	67,046	142,703	209,749	.....	209,749
1890.....	104,839	106,361	211,200	31	211,169
1891.....	144,980	57,792	202,772	108	202,664
1892.....	204,950	81,028	285,978	109	285,869
1893.....	214,758	64,684	279,442	1,051	278,389
1894.....	292,400	53,143	345,543	11,796	333,747
1895.....	366,689	48,637	415,326	11,776	403,550
1896.....	401,614	66,713	468,327	43,249	425,078
1897.....	511,236	53,636	564,872	140,116	424,756
1898.....	644,504	53,099	697,603	229,445	468,158
1899.....	757,315	27,369	784,684	341,203	443,481
1900.....	645,432	30,170	675,602	208,333	466,269
1901.....	660,509	19,982	680,491	209,172	471,319
1902.....	770,853	8,993	779,846	197,481	582,365
1903.....	801,738	3,539	805,277	307,201	498,076
1904.....	695,212	1,792	697,004	257,307	439,697
1905.....	905,536	7,450	912,986	267,383	645,603
1906.....	945,165	18,843	964,008	267,346	696,662
1907.....	983,482	5,952	989,434	226,472	762,962
1908.....	878,570	4,551	883,121	167,842	715,279
1909.....	1,025,244	3,204	1,028,448	258,879	769,569
1910.....	1,134,780	1,016	1,135,796	347,633	788,163
1911.....	1,129,267	1,843	1,131,110	285,009	846,101
1912.....	1,352,209	1,895	1,354,104	374,932	979,172

HAND MANUFACTURE.

Before the introduction of machinery into Japan the local cotton was ginned, carded, spun, and woven by hand. The methods were very primitive but they did not differ materially from those customary in other countries at that time or from those still used to-day in many sections of the world, especially in some parts of China and India.

GINNING AND CLEANING.

The cotton after being picked and dried in the shade was ginned by hand. The old form of gin consisted of two small wooden rollers, which had handles on opposite ends, and which were fixed in a stand.

Two men revolved the rollers by means of the handles while a third fed in the cotton; as the rollers were set close together the lint was drawn through and away from the seed. At a considerably later period the two rollers were connected by cogs and were turned with one handle. One man operated the machine by turning the handle with his right hand while he fed in the cotton with his left. This improved ginning arrangement was called a "wata-kuri" and was similar to the "churka" hand gin still used in India. The production of an able-bodied man on either is only about 5 kin (6.6 pounds) a day.

After being ginned the lint was dried in the sun and then opened up and freed of dirt, leaf, etc., by a primitive scutching arrangement consisting only of a bow, which was called a "wata-kuri-yumi." This was similar to, though not so good as, the bow contrivance used in India to-day, called a "dhunetta." The bow was about 4 feet long; the top part was thinner and more curved than the shorter part at the bottom. The string consisted of a cotton cord. The bow was held so that the string just touched a pile of lint. The string was then struck, by a "takehira" made of bamboo, and caused to vibrate, its vibrations knocking up a portion of the cotton in a fluffy mass and thus loosening it up and separating it from its impurities. About 1855 the Japanese imported an improved form of bow from China. With this a woman could turn out about 5 kwan (41 pounds) a day, as against a former average production of about 5 kin (6.6 pounds), and it found ready sale and adoption. This bow was better made and the string was of bull or whale gut. This was called "kara-yumi," or Chinese bow. The cleaned lint was rolled up on a smooth joint of bamboo, which was then withdrawn, leaving what was called a "jin-gi," or hollow tubing of cotton, and the cotton was then ready for the spinning process.

SPINNING PROCESS.

The older form of spinning arrangement, the "hazu," comprised only a stick about a foot long with a fork at the top, this stick being set upright in a hole in a block of wood or stone. The cotton tubing was suspended and a few strands pulled out and fastened to the stick. This was then revolved with both hands and as the cotton was twisted into yarn and wound up on the fork more cotton was pulled from the "jin-gi." The process was then repeated to make the yarn finer.

Later came a rough spinning wheel, called the "ito-yori-kuruma," which had been used first by hemp spinners and is said to have been introduced from China. This consisted of a wheel made of two wooden disks held together with cords so as to make a runway for another cord, which ran to the whorl of a spindle fastened horizontally. The wheel was turned with a handle and by means of the cord revolved the spindle. Strands of cotton pulled from the "jin-gi" were presented to the action of the revolving spindle and thus twisted and wound up into yarn. For finer work this soft and irregularly spun yarn was respun in the same way. The cop as taken from the spindle was called a "kama," or ball.

REELING AND WEAVING.

To measure and put the yarn up for market it was usually wound by hand around the ends of an I-shaped piece of wood $1\frac{1}{4}$ shaku long, 20 times around this being called a "hibi-roto" and 50 times around a

“kazeto.” Sometime later two of these I-shaped pieces were fastened together crossways and a hole made at the junction so that they could be rotated while the yarn was being wound around the ends. Later still there was imported from the Province of Fukien, in China, an arrangement by which the yarn from 8 cops set on spindles was wound simultaneously into 8 skeins side by side. This was considered a great advance as a labor-saving appliance.

After the yarn was spun it was woven by the wife for her own household or else, in case of a surplus, sold to other hand-loom weavers. The method of preparing the warp and of weaving on the crude hand loom with its overhung lay was very similar to that described in my notes on the hand-loom industry of India;¹ the method is still used in Japan and in many parts of the world to-day. The first idea of weaving, as the first cultivation of cotton, is said to have been introduced from Korea and China. Japanese history records the importation of weavers from those places, but whether the dates mentioned refer to the first introduction of weaving or to that of improved methods is not clear. The cloth made on the hand loom was not only very rough but also very narrow, most of it being under a shaku (14.913 inches) in width.

The Japanese seem to have little inventive mechanical ability, and their history shows that even the simplest mechanical improvements of the old times were adopted by them from the Chinese or the Hindoos, even as in modern times they have copied the mechanical ideas evolved by Europe and America.

MACHINE MANUFACTURE.

After being closed to foreigners for a long time because of the insurrection of 1637 pressure was brought to bear by both Russia and England in 1792 to open up Japan to foreign trade, and this was renewed about the middle of the nineteenth century but without success. Finally, an American expedition to negotiate a treaty with this hermit country, commanded by Commodore Perry, was successful. As a result Yokohama was opened to foreign trade in 1858, also Shimoda, Hakodate, Nagasaki, and Hyogo. Very soon foreign merchants settled at Yokohama and began to import, among other things, foreign cotton yarns.

Just before the opening of the country to trade, however, a foreign ship had made its appearance at one of the Riu Kiu Islands and had brought, among other things, a small amount of European yarn. A wealthy merchant named Taheji Hamazaki sent some of this cotton yarn to his overlord, the Daimyo Nariakira Shimazu, at Kagoshima. As the story runs, no one could be found who had any knowledge as to how such yarn could be made, or of what materials it was composed, and it was finally forwarded to Nishijin, near Kyoto, a famous center of hand-loom silk weaving. After much discussion it was there put down as being made of a mixture of cotton and silk and its value fixed accordingly. This shows how much superior the machine-made yarn from American cotton must have been over the irregular hand-spun yarn made by the natives from the harsh local cotton.

How the daimyo was led by an inspection of this yarn to desire the establishment of a cotton mill in his Province and how his idea

¹ “Cotton Fabrics in British India and the Philippines,” Special Agents Series No. 13, 1907.

was carried out by his son Yoshimitsu, who erected a small spinning mill in 1866, has already been described, also the gradual development of the new industry.

INCREASE IN PRODUCTION OF MACHINE-MADE YARN.

As the greater regularity and strength of the machine-made yarn made the work of the hand-loom weaver considerably easier, it was gradually adopted by them and the supply both from home mills and from abroad gradually increased. By 1880 the hand-spun yarn had been almost forced off the market, and it has since been a negligible factor. There were no power looms before 1888 and even to-day the production of the hand looms is still very important.

At first the Japanese mills used the native hand-spinner's system in numbering yarns, but in 1884 and 1885 they imported yarn-numbering reels from England, and since 1886 the English yarn-numbering system, by which the count is designated according to the number of 840-yard hanks that weigh a pound, has been in force. Japanese warp yarn is usually spun with a left-hand twist and Japanese weft with a right-hand twist, differing in this from the system in the United States, where both warp and weft are usually spun with a right-hand twist.

After the Restoration of 1868 the imports of foreign yarn increased considerably and reached the maximum of 47,439,639 kin (62,751,731 pounds), valued at 13,611,898 yen (\$10,449,759) in 1888. Since that time imports of yarn have gradually declined, though with occasional spurts such as in 1896 during the period of prosperity following the Chinese War, and again in 1906 just after the Russian War.

DEPRESSION CAUSES MILLS TO LIMIT PRODUCTION.

In the early part of the eighties the production of the small mills was sold at a good profit, but the yarn was made of inferior Chinese cotton and not so well spun as the Indian coarse counts made of better Indian cotton. Hence the demand gradually fell off for the home product and at a time when the production in Japan was increasing from many new mills. The Japanese factories attempted no competition with the finer yarns from England; in fact they could not do so with the grade of cotton used, and they had great difficulty in competing with the Indian product. Then came the severe depression of 1890. Large stocks of Indian yarns that had accumulated at Kobe were thrown on the market at very low prices, the Japanese mills found that they could not market half of their increased production, the erection of the Saitama mill was abandoned, the Imamiya failed, the Naniwa was sold at public auction, and other failures followed in their wake.

The position of the industry was precarious and it might have been wiped out but for timely action by the Government and the Japan Cotton Spinners' Association. An extraordinary meeting of the association was called to consider the state of the industry and it promptly adopted the following resolutions:

1. Every mill of over 5,000 spindles shall stop 8 days and nights each month during the three months from June 15 to September 14, 1890. Mills of 4,000 to 5,000 spindles shall stop 7 days and nights a month during this period; mills of 3,000 to 4,000 spindles 6 days and nights; mills of 2,000 to 3,000 spindles, 5 days and nights; and mills under 2,000 spindles, 4 days and nights per month during this period.

2. How they will arrange this monthly period of short time must be reported to the standing committee by each mill before June 10.

3. The mills must report their periods of short time monthly to the Department of Agriculture and Commerce, and every month a certificate from the Government certifying to this shall be obtained and sent to the committee.

4. Mills are at liberty to effect this short time by stopping all night work.

5. Members who fail to comply with these regulations will lose one-third of their guarantee deposit and will have to replenish same immediately.

It was arranged that if the demand increased this short-time arrangement could be canceled at the request of a certain number of mills; in fact, it was canceled at the beginning of July, though it would have been better if the curtailment of production had continued longer, as the revived demand was but short lived.

DETERMINATION TO MANUFACTURE FINER YARN.

On November 15, 1890, another special meeting of the association was called to consider the situation. At this meeting the mills strengthened their organization and consulted as to the best means of combating foreign yarns, especially Indian coarse counts, and of improving their selling arrangements at home, their financial condition, etc. It was agreed that the mills should use a better grade of raw material, preferably Indian instead of Chinese cotton, and that instead of confining their production to coarse yarns under No. 16, as most of them did, they should produce finer counts, especially 20s, as this was the yarn most largely imported from India. It was also decided to promote an export trade in cotton yarn.

At this meeting, which laid out many paths that the industry has since followed, it was decided that—

First, every mill of 4,000 spindles and over must make some yarn of No. 20 or higher, if its machinery permitted.

Secondly, the quantity of yarn produced and the counts made must be reported to the association monthly; this information to be passed on to all other mills but not given out for publication.

Thirdly, a committee should be appointed to urge the Government to remove the export duty on yarn and to increase the import duty on foreign yarn.

Fourthly, a committee should be appointed to study the question of establishing an exchange.

At that time means of communication in Japan were poorly developed and this made it difficult for the mills to ascertain the yarn demand in different sections of the interior, with the result that yarn dealers played one mill against the other to force down prices. It was thought that if a central exchange were instituted and official quotations published these could be taken as a basis for yarn quotations, and accordingly the members were asked to contribute to the erection of such an exchange at Osaka, that city being the most central point. To finance the trade it was also decided necessary to erect bonded warehouses where cotton yarn could be stored so that money could be raised on warrants. Finally it was decided that improved credit facilities for the industry were absolutely essential.

ASSISTANCE SOUGHT IN FINANCING INDUSTRY.

In 1884 a law regulating bills of exchange had been put in force, with the Bank of Japan, established in 1882, as the principal bank. The Bank of Japan, however, refused to discount a mill draft except

when it came through another bank. The spinners' association made representations to the Government as to the importance of the cotton industry in the economic development of Japan and asked that the Finance Department and the Bank of Japan formulate regulations in regard to spinning-mill drafts and that the Bank of Japan agree to discount these direct. To enable the Bank of Japan intelligently to limit the extension of credit, the mills agreed to prepare statements showing capital, reserves, etc. It was proposed that:

1. The loans should be made with consideration of the yarn stocks of the mill.
2. The Department of Finance should give the same facilities for discounting drafts by the Bank of Japan as do other commercial institutions.
3. The Bank of Japan should arrange an easier system whereby warrants can be put up as security against money advanced so as to make possible sales of goods pledged, to be replaced by other goods or by money.
4. The Bank of Japan should make possible the discounting of drafts in every part of Japan.

This matter was put in the hands of a committee, as the advantages of the plan to different mills were not the same.

A proposition to curtail production again was defeated. It was felt that this would do little to stimulate the demand for the coarse counts then being made from inferior yarn, and that the most advantageous plan was to make finer counts and to improve the quality. Most of the mills at that time were making yarns under No. 16 and had difficulty in selling half their output. At the same time the demand continued strong for Indian yarns of No. 20 and over, while the only three Japanese mills then making as high as 20s—the Osaka, Owada, and Hirano—had little trouble in finding a market for their product.

LARGER PRODUCTION OF FINER YARN—EXCHANGE ESTABLISHED.

These facts led the mills to keep to their agreement to make yarns of higher counts, especially No. 20, and by 1893 No. 20 had become the chief product. This is shown by the association reports for the cotton yarn production of 1893, as follows:

Number.	Production.	Number.	Production.	Number.	Production.
WEFT YARN.		WEFT YARN—contd.		WARP YARN.	
	<i>Kwan.</i>		<i>Kwan.</i>		<i>Kwan.</i>
3 to 9.....	153,520	21.....	59	16.....	1,176
10.....	366,033	22.....	97,936	18.....	19,824
11.....	332,407	23.....	850	20.....	782,611
12.....	758,550	24.....	79,580	22 to 32.....	8,469
13.....	455,978	26.....	1,464	VARIOUS.	
14.....	144,919	28.....	34,109	Unspecified.....	9,118
15.....	764,867	30.....	141,239	Japanese sizes.....	313,911
16.....	2,116,843	31.....	584	Total.....	9,804,365
17.....	123,890	32.....	213,870		
18.....	361,054	34.....	6,004		
19.....	4,832	36.....	273		
20.....	2,510,384	Over 40.....	11		

The great bulk of the yarn produced was weft. At that time there were only 420 power looms in the mills, and the export trade in yarn was just beginning, so the yarn was almost entirely for hand looms. In the eighties the hand-loom weavers had preferred to use English warp and Indian weft, but as the Japanese mills improved their yarns Japanese weft was substituted for the Indian.

In 1893 the association made its agreement with the NipponYusen Kaisha and this facilitated the import of Indian cotton. More American was also imported and the Nippon Boseki in 1894 began to turn out finer yarns made with American and Egyptian cotton, the first small importation of Egyptian cotton having been made during 1893. In 1893 the Japanese mills made only 11 kwan (about 90 pounds) of yarn above No. 40, but fine yarns then commenced to increase, jumping to 438,777 kwan in 1894. There was a big drop in production during the Chinese War period, owing to the demand being mainly for coarse and medium counts, but the output of finer counts thereafter increased.

The charter for an exchange to deal in cotton, cotton yarn, and cotton cloth was granted by the Government November 9, 1893, and the exchange was opened January 21, 1894. This is called the Osaka Sampin Torishikisho, meaning "The Three Products Exchange."

By this time the mills, the erection of which had been halted by the crisis of 1890, were finished and they had begun working; other new companies were established and yarn production was again increasing steadily.

PRODUCTION FROM 1893 TO 1900.

When the Chinese War broke out in 1894 the mills, remembering their experience during the depression of 1890, began to curtail production, but following the war was a period of widespread prosperity, and on the wave of a speculative boom many new mills were started, most of them by men who knew little of the industry and who had little financial backing.

During this period there was some increase in weaving and from 1895 a steady increase in the production of medium and fine counts, though the great bulk of the production still consisted of coarse counts, especially 11s to 20s. Although there was an increase in the production of medium and fine counts after the Chinese War, it was not sufficient to meet the larger demand due to prosperous conditions, and there were heavy imports of fine yarns, especially gassed yarns, from England. Hence, when the collapse of the boom occurred in 1898 many coarse-yarns mills, failing to find a market for their products, turned their attention to finer counts, and when the crisis was over the production of finer counts had so increased that, in the face of a higher tariff as well as the increase in home production, imports began to decrease.

The trend of the output from 1893 until the severe depression of 1900 is shown in the following statistics of yarn production, compiled by the Japan Cotton Spinners' Association:

Years.	Coarse.		Medium.	Fine.	Unspeci- fied.	Japanese sizes.	Total.
	Under 10.	11 to 20.	21 to 40.	Over 40.			
	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>
1893.....	519,553	8,377,335	584,437	11	9,118	313,911	9,804,365
1894.....	681,907	12,621,633	596,978	438,777	14,786	205,808	14,559,889
1895.....	1,027,675	15,200,684	1,120,906	94,477	6,540	337,205	17,787,487
1896.....	585,504	18,192,395	618,723	178,059	225	134,819	19,709,725
1897.....	1,581,325	22,233,981	984,080	325,942	.....	436,470	25,561,798
1898.....	1,557,435	27,872,223	1,397,949	576,654	.....	820,960	32,225,221
1899.....	2,097,280	31,115,248	1,724,693	824,831	49,987	405,626	36,217,665
1900.....	1,567,545	25,597,906	2,238,404	1,205,364	16,881	193,944	30,820,044

According to these figures the production of medium and fine yarns, that is, of yarns over No. 20, increased from a total of 584,448 kwan (4,831,632 pounds) in 1893 to 3,443,768 kwan (28,469,630 pounds) in 1900, or about 490 per cent, while the total production was increasing from 9,804,365 kwan (81,052,685 pounds) to 30,820,044 kwan (254,789,304 pounds), or only about 214 per cent.

In 1899 yarn prices were very low and exports reached a record not attained again until 1912.

In 1900 occurred the Boxer troubles in China. The mills in Japan were much disturbed and for several years business was very dull. The depression was especially felt because the mills had been operating on borrowed capital and paying out their profits in dividends, made as high as possible in order to keep up the market quotations of their shares, and thus they had few or no reserves. Moreover, the cost of manufacturing had been steadily rising, owing in large measure to a steady rise in the labor cost, which in turn was forced up by the higher prices of all necessities of life.

RISE IN COST OF PRODUCTION.

Dr. Hikotaro Nishi, in his able study of the Japanese spinning industry, gives a table compiled by the Department of Agriculture and Commerce of Japan, from data furnished by two mills which were organized in the same year, and which for a period of about 10 years regularly produced No. 16 weft. This table shows the manufacturing cost of No. 16 cotton weft to have been as follows, in yen per 400-pound bale:

Half years.	Mill A.				Mill B.			
	Average yarn count.	Total manufacturing cost.	Cost of labor.	Cost of coal.	Average yarn count.	Total manufacturing cost.	Cost of labor.	Cost of coal.
1894:	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
First.....	15.9	9.479	3.948	1.352	16.77	8.240	4.138	1.076
Second.....	15.6	9.159	3.403	1.312	17.10	9.628	4.446	.991
1895:								
First.....	15.3	9.540	3.000	1.339	17.25	8.998	4.251	1.129
Second.....	15.5	9.989	3.615	1.249	17.00	9.020	4.346	.921
1896:								
First.....	15.4	9.610	3.615	1.105	16.15	9.485	4.613	.956
Second.....	15.8	11.873	3.616	1.393	16.50	10.978	5.320	1.171
1897:								
First.....	15.1	13.876	4.405	2.441	16.50	11.937	5.829	1.594
Second.....	16.1	13.811	5.307	2.959	16.50	12.204	5.283	1.929
1898:								
First.....	16.5	12.595	5.409	1.864	16.80	13.024	6.239	2.066
Second.....	15.3	12.595	5.409	1.864	16.60	11.881	6.022	1.337
1899:								
First.....	14.1	12.100	5.126	1.193	16.20	10.956	5.651	1.056
Second.....	15.6	12.100	5.126	1.193	16.60	11.996	5.779	.816
1900:								
First.....	16.6	14.778	5.734	1.633	17.00	13.930	6.462	1.084
Second.....	15.2	16.456	6.000	1.001	17.30	15.187	6.657	1.161

FACTORS IN MILL COST.

The total cost of production, or mill cost, is composed of three elements: (1) Cost of material, which is the cost of the raw cotton at the mill, plus the increased cost due to waste made, less the value of waste sold; (2) productive labor; and (3) general expenses, which include fixed charges such as salaries, taxes, fire insurance, and depre-

ciation, and variable charges such as supplies, fuel and power bought, general labor, and office and miscellaneous expenses. The items of productive labor and general expenses are called the manufacturing, or conversion, cost. In the table the cost of material is not shown, but there is given the total conversion cost, or cost of manufacture above that of the raw material; and also the labor cost; together with one item (coal) of the general expenses.

Taking an average of the two mills in 1894 and in 1900, it is found that the conversion costs of making No. 16 weft were as follows:

Conversion costs.	Yen per bale.		Cents per pound.		Per cent of increase.
	1894	1900	1894	1900	
Productive labor.....	3.984	6.213	0.496	0.774	56
General expenses	5.142	8.875	.640	1.104	72
Total.....	9.126	15.088	1.136	1.878	65

Although data from only two mills do not furnish a basis for accurate conclusions, they indicate the general trend. There was a considerable increase in the conversion costs, and the increase was somewhat larger in the general expenses than in the labor, though the latter was steadily rising. Taxes were raised after the Chinese War, especially by the all-embracing business tax of 1896, which included a tax of 2 yen on every operative employed, a tax of 3.7 per 1,000 on the amount of capital, a tax of 90 per 1,000 on the rental value of buildings, and taxes on warehousing, railway transport, etc. Supplies, office expenses, etc., also increased during the period. It is stated that the two mills above mentioned were among the best managed in the country, and that the costs in other mills were possibly 10 to 20 per cent higher. During 1900 the average price of Indian Broach cotton in Osaka was 23.833 yen per 100 kin (8.907 cents per pound), and the cost in the yarn would be increased by the waste made. The average price of No. 16 weft on the Osaka market was 96.28 yen per bale of 400 pounds (11.986 cents per pound).

EFFECT OF LOW PRICES.

During 1901, 1902, and the first part of 1903 the price of yarn remained low. These were years of very dull business, and there were many amalgamations and some failures. The export trade was dull, and the mills had to resort to short time and also employ various expedients to promote exports. However, they took advantage of the opportunity to effect economies in manufacturing methods and by retaining only the best workers to raise the general standard of efficiency. Government figures show that the yarn production per operative rose from 433 kwan (3,580 pounds) in 1896 to 556 kwan (4,596 pounds) in 1903. Dr. Nishi states that the Amagasaki mill in Hyogo, on No. 42 yarn, obtained an average production of 50 momme (0.413 pound) in 1903, as against 38 momme (0.314 pound) in 1896, per spindle per day (the working day including day and night); also that the Nippon mill, in Osaka, on No. 80 yarn, averaged about 14½ momme (0.12 pound) in 1903, as against 10 momme (0.0867 pound) in 1896.

The depression during this period was felt less by the fine-yarn mills, and this led other mills to start making finer counts. Likewise, the cloth mills were not so badly affected as the coarse-yarn spinning mills, and this induced many manufacturers to consider the installation of looms.

EXPANSION FOLLOWING WAR WITH RUSSIA.

By 1903 the mills had recovered from the worst effects of the depression, but they were unable to expand greatly because of the threatened war with Russia. When war broke out the next year they prepared for dull times, but the requirements for the huge army soon caused them to start full speed again, and following the war the mills entered upon an era of prosperity that lasted from the middle of 1904 to the middle of 1907. The new market for cloth in Manchuria caused the installation of a considerable number of looms. The yarn production, which had risen to 801,738 bales in 1903 after the recovery from the depression of 1900 and then dropped to 695,212 bales in 1904, expanded to 905,536 bales in 1905, to 945,165 bales in 1906, and to 983,482 bales in 1907.

During the three years of expansion the increase was mainly in coarse yarns, both relatively and absolutely, as the new looms were making chiefly sheeting and drills for the Manchurian trade. In 1908 came a reaction, and from February 1, 1908, to October 1, 1912, the mills were unable to find a market for all their products and operated varying proportions of their machinery. They gradually increased their output of finer yarns, on which there was not so strong competition. In 1908 the total output of yarn was only 878,570 bales, but in the next few years it again increased, as the mills were enlarged in anticipation of a better demand. The market did improve at times, though not sufficiently to enable them to run full time. In 1909 the total production reached 1,025,244 bales, and in 1910, 1,134,780 bales; it dropped to 1,129,267 bales in 1911, with the restriction of the export to China, but increased in 1912 to 1,352,209 bales. During this period sharp competition on coarse counts led to an increased production of medium and fine counts, especially during 1912. As compared with 1911 the total yarn production in 1912 increased about 20 per cent, while the output of medium counts increased 39 per cent and of fine counts 33 per cent.

PRODUCTION FROM 1902 TO 1912.

The production of the various yarns from 1902 to 1912 was as follows:

Years.	Coarse.	Medium.	Fine.	Special.	Japanese sizes.	Total.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
1902.....	678,100	47,294	39,588	1,900	3,971	770,853
1903.....	705,165	55,325	38,975	945	1,328	801,738
1904.....	620,145	40,337	32,766	709	1,255	695,212
1905.....	801,296	60,866	40,766	1,025	1,583	905,536
1906.....	833,704	65,623	42,462	1,263	2,113	945,165
1907.....	868,892	64,499	46,315	1,258	2,518	983,482
1908.....	752,537	66,244	55,679	1,966	2,144	878,570
1909.....	859,293	93,439	69,999	1,456	1,057	1,025,244
1910.....	988,618	85,496	59,301	1,365	.....	1,134,780
1911.....	956,949	101,427	68,883	1,319	689	1,129,267
1912.....	1,117,267	141,316	91,920	1,706	.....	1,352,209

CHANGES IN QUALITY OF YARN.

The gradual trend toward the manufacture of finer counts is seen by the following table, which gives the total, in bales, and the percentages of coarse counts of 20s and under, medium counts of 21s to 40s, and fine counts above 40s:

Years.	Total output.	Coarse.	Medium.	Fine.	Unspecified.	Total.
	<i>Bales.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1890.....	104, 839	100. 00				100
1895.....	366, 689	91. 23	6. 29	0. 54	1. 94	100
1900.....	645, 432	88. 14	7. 27	3. 91	. 68	100
1905.....	905, 536	88. 49	6. 72	4. 50	. 29	100
1910.....	1, 134, 780	87. 14	7. 52	5. 22	. 12	100
1911.....	1, 129, 267	84. 74	8. 98	6. 10	. 18	100
1912.....	1, 352, 209	82. 63	10. 45	6. 80	. 12	100

While yarn production is still chiefly the coarse counts, there is a gradual trend toward finer counts. As the standard of living in Japan advances, and as the Chinese mills expand so that exports of coarse counts to that market are curtailed, the Japanese will have to make a larger amount of fine yarn for the home market and also seek outlets for it in the Philippines, the East Indies, British India, and possibly Australia. However, until the principal cloths required in Japan and China become materially finer and lighter, the larger part of the Japanese output will be coarse counts.

OUTPUT OF VARIOUS YARNS IN 1902 AND 1912.

The output of each kind of yarn in 1902 and 1912 is shown in detail in the following table:

No.	Single weft.		Single warp.		Doubled yarn.		Gassed yarn.		Total.	
	1902	1912	1902	1912	1902	1912	1902	1912	1902. ^a	1912. ^b
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
1 to 9.....	6, 670½	22, 973	4, 650	9, 038½	1	65			11, 321½	32, 076½
10.....	27, 351	59, 483	83½	696½					27, 434½	60, 179½
11.....	10, 642½	5, 903		6					10, 642½	5, 909
12.....	38, 078	51, 445½	700	4, 175½	114	26			38, 892	55, 647
13.....	16, 189½	17, 065½	3, 165½	9, 898½					19, 355	26, 964
14.....	46, 337½	80, 947	3, 498	46, 403	28	73½			49, 863½	127, 423½
15.....	20, 715	15, 093½	4, 736	38, 352	185				25, 636	53, 445½
16.....	254, 299	346, 844½	4, 561½	16, 610½	1, 456½	4, 800		484	260, 317	368, 739
17.....	320½	1, 024½	155½	918½	4, 195½				4, 671½	1, 943
18.....	13, 241½	3, 500	3, 877	8, 084½		8			17, 118½	11, 592½
19.....	15		24	5, 373		298			39	5, 671
20.....	13, 926	8, 912	198, 684	355, 821		21, 096½	199	1, 847½	212, 809	367, 677
21.....	80		697	2, 764					777	2, 764
22.....	1, 048½	1, 514	1, 550	3, 428			3	195½	2, 601½	5, 137½
23.....			4	1, 367					4	1, 367
24.....	1, 018		1, 292½	6, 819½		233	11½		2, 322	7, 052½
25.....	22½			34					22½	34
26.....			92	124½			32		124	124½
28.....	84½		3, 891	3, 091½					3, 975½	3, 091½
30.....	477	580	11, 737½	37, 991		701½		27	12, 214½	39, 299½
32.....	183		14, 773½	27, 301	5, 171½	19, 736	349		20, 477	47, 037
33.....			702				55		757	
34.....	1		159½	5, 241½	52		23		235½	5, 241½
35.....				1, 051½						1, 051½
36.....	113½	608	925	4, 175			227½	103	1, 266	4, 886
38.....	21	48½	25½	539					46½	587½
40.....	20	814	1, 289½	18, 735	114	22	1, 048	4, 071	2, 471½	23, 642
42.....	155	248	1, 881	3, 318½	20, 390½	46, 910½	837½	47	23, 264	50, 524
43.....	15½			709		1, 524			15½	2, 233
44.....				25			100		100	25

^a Total includes 5,871 bales (0.76 per cent) not specified.
^b Total includes 1,706 bales (0.13 per cent) not specified.

No.	Single weft.		Single warp.		Doubled yarn.		Gassed yarn.		Total.	
	1902	1912	1902	1912	1902	1912	1902	1912	1902.	1912.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
45.....				2,662½						2,662½
46.....		434½		663						1,097½
48.....		357½								357½
50.....			12½	1,544		5½	74	306½	86½	1,856
52.....								207		207
55.....				288½						288½
58.....				13						13
60.....				23	293	48½	6,746½	18,471	7,039½	18,542½
62.....						80		503		583
64.....						13½		308		321½
72.....								306		306
80.....					61		8,987½	12,347½	9,048½	12,347½
82.....								23		23
84.....						42		375		417
100.....							25	115½	25	115½
120.....							9		9	
Total.....	451,025½	617,796	263,167½	597,286½	32,062	95,683½	18,727½	39,737½	770,853½	1,352,209½
Per cent.....	58.51	45.69	34.14	44.17	4.16	7.08	2.43	2.93	100	100

Compared with 1902 there was an increase of 75.4 per cent in 1912 in the total production of yarn. The gain in coarse yarns (20s and under) was 61.8 per cent; in medium yarns (21s to 40s), 198.8 per cent; and in fine yarns (above 40s), 132.2 per cent. The counts made in largest amounts were the same during the two years, that is, in order of weight, as follows: 16s, 20s, 14s, 12s, 10s, 15s, 42s (mainly ply yarn), and 32s (mainly ply yarn).

No. 16 weft and No. 20 warp remain the two principal counts, but there has been a very large relative gain in the spinning of 14s and 15s (due to the development of the trade in grey sheeting and drill), and in 32s and 42s ply yarns and 60s gassed. The production of 30s warp more than trebled. There was some gain in the production of 80s, but above this number the production remains negligible.

COTTON CONSUMPTION AND YARN PRODUCTION.

The Department of Agriculture and Commerce publishes the following statistics as to the consumption of cotton in Japanese mills and the production of yarn, cotton waste, and yarn waste:

Years.	Daily average of working spindles.	Cotton consumed.	Yarn produced.	Cotton waste.	Yarn waste.
		<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>	<i>Kwan.</i>
1892.....	385,314	12,240,793	9,977,208	906,116	304,851
1893.....	381,781	11,531,307	10,666,744	1,178,059	298,466
1894.....	476,123	17,179,274	14,620,008	1,816,333	192,017
1895.....	518,736	21,771,346	18,437,011	2,423,361	251,879
1896.....	692,384	24,875,087	20,585,485	2,923,729	328,666
1897.....	768,328	32,068,243	26,134,120	3,706,510	1,177,099
1898.....	1,027,817	42,544,656	32,163,239	4,980,687	558,409
1899.....	1,170,327	42,962,406	43,052,402	4,923,207	587,343
1900.....	1,144,027	38,323,770	32,419,641	3,889,848	786,457
1901.....	1,181,762	38,681,886	33,115,829	4,092,460	477,364
1902.....	1,301,118	44,286,547	38,458,947	4,552,329	472,703
1903.....	1,290,347	45,521,389	39,120,772	4,953,244	439,447
1904.....	1,306,198	40,157,040	34,569,430	4,186,317	326,552
1905.....	1,402,931	50,516,514	44,137,858	5,063,052	462,369
1906.....	1,441,934	53,079,596	46,187,845	5,387,450	501,750
1907.....	1,500,579	54,707,033	47,322,788	5,699,652	486,197
1908.....	1,403,034	49,496,645	42,864,262	5,277,337	487,778
1909.....	1,785,665	58,726,909	50,034,590	6,565,726	614,240
1910.....	1,896,601	66,825,340	56,396,939	7,290,741	561,200
1911.....	1,901,290	65,565,730	55,974,015	8,084,915	507,308

The 1912 Government figures are not yet available, but the Japan Cotton Spinners' Association places the cotton consumption in 1912 at 76,347,818 kwan; yarn produced, 66,678,729 kwan; waste cotton (soft waste), 8,767,004 kwan; and yarn waste (hard waste), 566,927 kwan. This makes the yarn production in 1912 87.33 per cent and the waste production 12.23 per cent of the cotton consumed. The association figures for consumption and production always differ from those of the Government, but not materially.

COMPARISON OF YARN AND WASTE PRODUCTION.

The Government figures, converted into pounds, give the following comparison for various years:

Years.	Daily average of working spindles.	Cotton consumed.	Yarn produced.		Waste produced.	
			Pounds.	Per cent of cotton.	Pounds.	Per cent of cotton.
		<i>Pounds.</i>				
1895.....	518,736	179,982,717	152,418,770	84.69	22,115,609	12.29
1900.....	1,144,027	316,822,607	268,013,172	84.59	38,659,013	12.20
1905.....	1,402,931	417,620,021	364,887,672	87.37	45,678,655	10.94
1910.....	1,896,601	552,445,086	466,233,495	84.39	64,911,996	11.75
1911.....	1,901,290	542,031,890	462,737,182	85.37	71,031,908	13.10

The actual waste made during the manufacture of ordinary counts in Japanese cotton mills is usually figured at 16 per cent. The amount of waste reported to the Government is less, because much of the soft waste from the manufacture of medium and fine counts is used in mixing for low counts made by the same mill; and the percentage of yarn produced is increased by the moisture regained during conditioning, as practically all Japanese cotton mills condition their yarn.

PRICES AND MARKET QUOTATIONS.

All cotton mills of Japan are members of the Japan Cotton Spinners' Association and are required by the association to report by the 5th of each month the prices received for No. 16 right twist (weft) and No. 20 left twist (warp) during the preceding month. The highest and lowest prices thus reported by the mills during the last 15 years are shown in the following tables, in yen per bale of 400 pounds:

NO. 16 RIGHT TWIST.

Months.	1899		1900		1901		1902		1903	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
January.....	77.17	75.76	101.02	94.20	107.84	103.05	99.97	98.02	90.72	87.83
February.....	80.33	76.24	106.75	100.58	106.14	102.94	99.91	98.44	94.01	90.24
March.....	79.34	76.71	112.82	102.43	102.69	95.81	99.58	98.00	94.62	92.22
April.....	77.58	75.60	102.00	92.91	100.51	95.31	99.29	97.52	95.17	93.11
May.....	76.08	74.27	96.07	90.65	99.87	95.33	95.14	91.82	95.40	90.58
June.....	77.65	74.98	92.12	82.52	96.91	93.91	96.92	93.59	97.36	95.36
July.....	78.25	76.26	94.74	84.23	97.75	95.25	97.33	95.07	97.73	96.29
August.....	83.63	77.11	95.87	92.71	98.58	96.16	96.17	94.37	98.68	96.31
September.....	91.17	83.13	95.09	90.49	102.48	101.29	96.04	94.01	100.03	97.96
October.....	93.81	88.07	95.99	93.54	102.99	99.23	94.00	91.16	100.70	98.10
November.....	94.73	89.73	99.14	94.24	101.57	98.55	91.69	88.58	102.17	100.72
December.....	94.74	91.32	104.01	98.88	100.29	97.76	89.49	86.30	105.28	102.30

NO. 16 RIGHT TWIST—Continued.

Months.	1904		1905		1906		1907		1908	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
January.....	106.78	103.93	116.57	112.85	126.14	121.62	129.59	124.97	115.75	110.40
February.....	107.50	105.59	118.06	112.97	128.65	123.12	128.22	124.25	114.92	108.98
March.....	113.81	107.86	126.54	116.10	128.32	123.45	127.83	122.93	111.48	103.94
April.....	112.87	109.84	122.31	114.91	126.03	120.88	125.62	120.76	106.78	100.05
May.....	111.97	109.72	120.75	114.24	125.80	121.57	123.91	119.77	104.02	97.56
June.....	110.68	107.52	122.45	116.34	124.64	119.92	124.55	120.75	107.88	97.65
July.....	110.89	106.84	122.22	117.28	124.75	121.87	124.14	121.12	109.89	103.80
August.....	112.90	110.32	122.33	117.20	123.55	119.90	123.62	121.23	109.85	104.69
September.....	117.80	112.88	130.02	118.85	124.42	120.39	123.50	121.03	110.67	106.32
October.....	117.03	114.73	123.72	118.05	125.50	121.64	122.77	119.92	110.09	107.96
November.....	120.35	114.64	123.85	118.53	125.52	122.18	121.34	117.75	106.21	103.90
December.....	118.37	113.32	125.97	121.11	127.81	123.67	120.34	114.43	106.26	100.44

Months.	1909		1910		1911		1912		1913	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
January.....	105.42	101.32	126.54	122.85	151.75	143.75	140.35	129.46	145.50	138.82
February.....	111.21	104.13	124.07	123.68	151.62	145.29	141.00	129.56	146.29	139.81
March.....	118.18	109.98	132.05	126.78	150.36	144.27	142.07	130.86	148.40	140.65
April.....	117.66	110.06	133.54	129.04	150.30	145.50	139.00	130.86	147.73	141.05
May.....	118.93	112.29	133.64	129.86	149.41	146.18	138.83	131.04	146.67	141.20
June.....	120.49	113.05	133.13	128.58	149.71	147.27	138.95	130.05	145.39	139.20
July.....	121.53	117.02	130.73	127.07	140.35	129.46	141.42	132.58	144.22	137.27
August.....	120.59	116.41	128.87	123.92	141.00	129.56	141.85	134.20	134.24	136.96
September.....	122.30	117.71	129.46	124.23	142.07	130.86	143.14	134.81	144.81	137.78
October.....	121.35	116.68	132.98	127.82	139.00	130.86	143.07	135.89	144.59	137.22
November.....	122.06	119.68	138.55	130.75	138.83	131.04	144.19	137.02	142.40	136.35
December.....	126.88	120.02	145.73	136.20	138.95	130.05	146.22	138.18	139.61	134.57

NO. 20 LEFT TWIST.

Months.	1899		1900		1901		1902		1903	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
January.....	79.15	77.24	101.70	96.32	112.15	106.62	101.82	96.10	95.93	92.68
February.....	82.50	78.08	109.03	102.75	109.47	105.54	102.50	100.72	101.23	96.26
March.....	81.25	78.78	113.30	104.59	105.57	98.89	103.00	101.00	103.64	99.03
April.....	79.44	77.31	105.51	97.47	103.16	97.38	103.50	101.66	101.68	97.69
May.....	77.73	76.48	100.18	94.77	103.28	98.69	101.30	98.06	100.00	97.60
June.....	79.30	76.28	94.40	83.02	99.29	96.62	102.03	98.56	113.51	99.10
July.....	80.33	78.48	96.48	86.51	100.88	97.75	103.25	101.17	103.45	101.81
August.....	85.06	79.18	97.22	92.96	101.82	99.29	101.45	99.30	104.18	102.02
September.....	93.50	85.79	95.77	91.30	106.14	102.57	100.16	97.59	105.79	103.51
October.....	97.01	90.58	97.18	94.50	106.01	101.56	97.23	94.50	108.22	105.47
November.....	96.89	92.59	102.20	96.20	103.28	100.11	95.44	92.30	109.42	100.53
December.....	96.41	93.50	107.76	102.40	100.29	97.76	94.18	90.24	116.42	108.81

Months.	1904		1905		1906		1907		1908	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
January.....	113.93	110.50	121.56	114.31	138.27	132.62	140.16	133.86	123.01	116.41
February.....	115.09	112.88	131.07	118.78	141.90	133.27	138.88	133.63	120.78	114.32
March.....	118.50	110.26	137.48	122.67	143.50	144.00	136.96	130.24	116.57	109.38
April.....	118.49	115.00	132.38	122.20	139.27	130.39	134.45	128.67	111.25	106.52
May.....	116.81	114.61	134.03	124.13	136.40	129.80	133.58	126.64	108.49	103.85
June.....	115.56	111.09	139.54	127.46	134.40	128.36	132.88	127.78	115.28	105.60
July.....	114.72	110.02	136.90	129.00	135.17	138.37	132.21	124.00	118.36	112.37
August.....	117.80	114.58	135.67	127.78	133.84	129.22	131.98	128.88	117.89	112.59
September.....	131.96	118.24	134.62	127.18	134.86	130.33	130.72	127.06	116.41	112.12
October.....	125.98	120.52	133.33	129.40	133.93	131.35	129.47	126.06	117.35	114.57
November.....	128.77	120.86	133.85	128.33	133.85	131.82	128.33	123.81	112.57	111.02
December.....	126.27	117.43	136.11	130.33	136.99	132.19	126.34	120.29	111.05	106.38

NO. 20 LEFT TWIST—Continued.

Months.	1909		1910		1911		1912		1913	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
January.....	111.74	107.84	131.86	128.87	161.75	150.00	143.03	134.06	152.45	146.08
February.....	115.05	109.58	133.54	129.73	158.83	152.53	144.03	135.32	152.04	147.22
March.....	125.74	116.25	138.32	131.65	162.52	153.76	144.87	135.97	151.75	146.17
April.....	126.97	117.05	139.12	134.89	161.42	155.37	144.32	136.64	152.67	147.28
May.....	124.78	118.13	138.76	136.09	159.50	155.97	146.55	138.41	152.55	147.53
June.....	126.49	119.32	138.16	134.43	159.24	156.11	146.14	137.42	151.05	146.35
July.....	129.48	124.19	135.61	132.57	159.32	156.54	147.68	140.94	149.48	142.08
August.....	130.05	125.54	133.82	128.61	157.72	153.14	148.11	141.18	149.11	143.81
September.....	131.56	127.74	133.35	128.54	157.48	152.35	148.68	142.30	149.96	143.36
October.....	131.03	126.05	139.00	133.08	156.46	147.32	148.11	142.54	149.00	143.46
November.....	130.41	127.01	145.25	137.15	145.09	130.93	148.43	143.03	147.65	142.36
December.....	131.71	127.57	151.29	143.64	144.03	131.71	150.83	144.87	145.45	137.56

During the 15 years the lowest price received by the mills for No. 16 weft yarn made with right-hand twist was 74.27 yen per bale (9.25 cents per pound) in May, 1899, while the highest price was 151.75 yen per bale (18.89 cents per pound) in January, 1911, when the mills were working on extraordinarily costly cotton. For No. 20 warp yarn made with left-hand twist the lowest price received by the mills was 76.28 yen per bale (9.5 cents per pound) in June, 1899, and the highest price 162.52 yen per bale (20.23 cents per pound) in March, 1911.

FACTORS IN DETERMINING PRICES.

Prices received by various mills vary with the standing of their yarns, which are judged according to the material and the spinning. Manufacturing costs likewise vary from mill to mill, and the price of material varies largely, according to the mixing. Spinners state that, in general, they now figure the manufacturing, or conversion, cost to average about 1 yen per count per bale for coarse and medium numbers; that is, the manufacturing cost above the cost of cotton (the cost of the cotton, of course, is enhanced by the waste made) is about 16 yen per bale (1.99 cents a pound) for 16s; 20 yen per bale (2.49 cents per pound) for 20s; 28 yen per bale (3.486 cents per pound) for 28s, etc. Thus, the difference in the manufacturing cost of 16s and 20s would be 4 yen per bale (one-half cent per pound), but the tables show that the difference is usually somewhat more. This is explained by the fact that the cost of the raw material for 20s is higher than for 16s, as the mixing for the former usually contains a larger percentage of the higher-priced American cotton, and the selling value is improved thereby. Sometimes, however, owing to fluctuations in the demand, the difference between these two counts, the chief ones made in Japan, is less than this amount.

MARKET QUOTATIONS.

The prices above given for 16s weft and 20s warp are those received by the spinning mills, as shown by their reports to the Japan Cotton Spinners' Association. They are not the quotations published on the market. In Japan the cotton yarn market seems to be mainly a spot-cash trade. The mills sell direct to the wholesale dealers,

without any intermediate commission house, and these dealers pay the mills in cash without discount; if they require one or two months in which to pay, the mill may take their promissory note with interest for the time. The dealers add a certain amount to cover their profit and expenses and issue weekly quotations to the retailers at home or to their agencies abroad. The margin between the market quotation of the dealers and the mill price varies, but it is usually small. In many cases the dealer's quotation is very little higher than the mill price, and in some cases it is the same. Brokers may buy for a turn and hold the yarn until there is a rise, making their profit entirely out of the change in price. Sometimes, of course, this works the other way and a failure is recorded. The larger firms do not speculate much, but add a certain amount and issue their quotation lists to their regular customers every week.

WHOLESALE YARN QUOTATIONS.

The following are the actual wholesale quotations on cotton yarn given by Yagi Shoten (the Yagi Firm) of Osaka for January 6, 1914, the yarns being listed in the order given by the firm; the prices are in yen per bale of 400 pounds.

Yarn number and kind.	Yen per bale.	Spinning mill.	Yarn number and kind.	Yen per bale.	Spinning mill.
No. 12 left twist (warp).	141.50	Kanegafuchi.	No. 12 right twist...	126.00	Amagasaki.
No. 12 left twist....	139.50	Do.	No. 10 right twist...	121.50	Do.
No. 12 left twist....	138.50	Osaka Godo.	No. 8 right twist....	120.50	Do.
No. 12 left twist....	138.50	Settsu.	No. 10 right twist...	121.50	Fuji Gas.
No. 12 left twist....	137.00	Meiji.	No. 8 right twist....	121.00	Do.
No. 12 left twist....	136.50	Koriyama mill of	No. 10 right twist...	122.00	Osaka.
		Settsu.	No. 10 right twist...	117.00	Fuji Gas.
No. 12 left twist....	138.00	Fukushima.	No. 10 right twist...	121.00	Naigai Wata.
No. 12 left twist....	135.50	Osaka.	No. 10 right twist...	117.00	Shimomura.
No. 12 left twist....	135.50	Kurashiki.	No. 16 left twist	139.25	Kanegafuchi.
No. 12 left twist....	133.50	Matsuyama.	(warp).		
No. 12 left twist....	135.00	Naigai Wata.	No. 16 left twist....	138.25	Do.
No. 12 left twist....	133.50	Oita.	No. 20 left twist....	140.25	Do.
No. 12 left twist....	133.00	Ozu Hosoiito.	No. 20 left twist	142.25	Do.
No. 18 left twist....	139.00	Kanegafuchi.	(warp).		
No. 18 left twist	141.00	Do.	MEDIUM YARNS. ^b		
(warp).			No. 20.....	184.00	Kanegafuchi.
No. 16 right twist...	138.25	Do.	No. 24.....	184.00	Do.
No. 15 right twist...	136.00	Do.	No. 28.....	184.00	Do.
No. 14 right twist...	136.00	Do.	No. 30.....	184.00	Do.
No. 13 right twist...	137.00	Do.	No. 30.....	169.00	Do.
No. 12 right twist...	134.50	Do.	No. 32.....	172.00	Do.
No. 11 right twist...	127.50	Do.	No. 32.....	186.00	Do.
No. 10 right twist...	127.00	Do.	No. 20.....	177.00	Fuji Gas.
No. 8 right twist....	125.50	Do.	No. 24.....	178.00	Do.
No. 16 right twist...	135.50	Settsu.	No. 30.....	168.00	Osaka.
No. 15 right twist...	134.00	Do.	No. 30.....	168.00	Osaka Godo.
No. 14 right twist...	133.00	Do.	No. 32.....	172.00	Do.
No. 13 right twist...	133.00	Do.	No. 40.....	198.00	Do.
No. 12 right twist	131.00	Do.			
(extra twist). ^a			DOUBLED YARNS.		
No. 12 right twist...	131.00	Do.	No. 32/2.....	189.00	Ehime.
No. 10 right twist...	124.50	Do.	No. 32/2.....	195.00	Amagasaki.
No. 8 right twist....	124.00	Do.	No. 32/2.....	195.00	Osaka Godo.
No. 16 right twist...	135.50	Osaka Godo.	No. 32/3.....	194.00	Do.
No. 15 right twist...	134.00	Do.	No. 32/2.....	195.00	Kanegafuchi.
No. 14 right twist...	133.00	Do.	No. 20/2.....	152.00	Do.
No. 13 right twist...	132.00	Do.	No. 20/3.....	153.00	Do.
No. 12 right twist...	130.50	Do.	No. 42/2.....	218.00	Amagasaki.
No. 11 right twist...	125.50	Do.	No. 42/2.....	215.00	Do.
No. 10 right twist...	124.50	Do.	No. 42/2.....	225.00	Osaka Godo.
No. 16 right twist...	133.50	Osaka.	No. 42/2.....	215.00	Tokyo.
No. 14 right twist...	132.00	Do.	No. 42/2.....	214.00	Amagasaki.
No. 12 right twist...	129.00	Do.	No. 20/3.....	157.00	Naigai Wata.
No. 16 right twist...	131.00	Mishima.			
No. 12 right twist...	129.50	Ehime.			

^a For crape.

^b Used as a substitute for imported yarn.

Yarn number and kind.	Yen per bale.	Spinning mill.	Yarn number and kind.	Yen per bale.	Spinning mill.
DOUBLED YARNS—continued.			GASSED YARNS—continued.		
No. 20/4.....	157.00	Naigai Wata.	No. 80/2.....	356.00	Nippon.
No. 20/5.....	157.00	Do.	No. 80/2.....	351.00	Do.
No. 16/3.....	153.00	Do.	No. 80/2.....	344.00	Do.
No. 16/4.....	153.00	Do.	No. 100/2.....	512.00	Do.
No. 16/3.....	150.00	Kanegafuchi.	SILKETS, UNBLEACHED. ^a		
GASSED YARNS.			No. 80/2.....	384.00	Nippon.
No. 60/2.....	286.00	Nippon.	No. 80/2.....	379.00	Do.
No. 60/2.....	257.00	Do.	No. 60/2.....	285.00	Do.
No. 60/2.....	252.00	Do.			

^a In Japan mercerized cotton yarns (there known as silkets) are made by the Nippon Boseki and the Fuji Gas Boseki. If bleached these mercerized yarns will be 5 yen per bale higher.

QUOTATIONS OF KANEGAFUCHI COMPANY.

For comparison there are given the equivalent prices in American terms of the yarns made by the Kanegafuchi Spinning Co. (Ltd.), as this firm is the largest producer in Japan:

Yarns.	Yen per bale.	Cents per pound.	Yarns.	Yen per bale.	Cents per pound.
BLUE FISH AND TEMPLE BELL BRANDS.			BLUE FISH AND TEMPLE BELL BRANDS—continued.		
No. 8 right-hand twist.....	125.50	15.62	No. 28 left-hand twist.....	170.00	21.16
No. 10 right-hand twist.....	127.50	15.87	No. 30 left-hand twist.....	169.00	21.04
No. 11 right-hand twist.....	127.50	15.87	No. 32 left-hand twist.....	172.00	21.41
No. 12 right-hand twist.....	134.50	16.75	No. 16/3.....	150.00	18.68
No. 13 right-hand twist.....	137.50	17.12	No. 20/2.....	152.00	18.92
No. 14 right-hand twist.....	136.00	16.73	No. 20/3.....	153.00	19.05
No. 15 right-hand twist.....	136.00	16.73	No. 32/2.....	195.00	24.27
No. 16 right-hand twist.....	138.25	17.21	EAGLE BRAND.		
No. 12 left-hand twist.....	139.50	17.37	No. 20 left-hand twist.....	184.00	22.91
No. 12 left-hand twist (warp).....	141.50	17.62	No. 24 left-hand twist.....	184.00	22.91
No. 16 left-hand twist.....	138.25	17.21	No. 28 left-hand twist.....	184.00	22.91
No. 16 left-hand twist (warp).....	139.25	17.34	No. 30 left-hand twist.....	184.00	22.91
No. 18 left-hand twist.....	139.00	17.31	No. 32 left-hand twist.....	186.00	23.16
No. 18 left-hand twist (warp).....	141.00	17.55			
No. 20 left-hand twist.....	140.25	17.46			
No. 20 left-hand twist (warp).....	142.25	17.71			

The Blue Fish and Temple Bell brands, up to and including 20s, are made with varying mixtures of Indian, American, and probably Chinese cotton. The Eagle brands are made of American cotton to compete with imported yarns required for special goods. The Temple Bell brand of 20s was selling at 17.71 cents per pound, but the Eagle brand of 20s sold at 22.91 cents a pound. For ordinary goods, however, the mixed-cotton yarns are used, hence their price compares with the price in the United States of all-American cotton yarns used for the same class of fabrics. Japanese ordinarily make their weft, or filling, yarns with a right-hand twist and their warp yarns with a left-hand twist, but the yarns specifically marked warp in the foregoing table are made with somewhat more twist, for use as warp in cotton mills, than is given the ordinary left-hand twist warps used for hand-loom weaving, as there is less strain put on the warp in hand-loom than in power-loom weaving. The extra twist, of course, decreases the production and raises the price.

COTTON-YARN FUTURES.

The Osaka Sampin Torishikisho (Osaka Three Products Exchange) consists of brokers who deal in three-month time or future transactions in cotton yarns—the present month, the next month, and the month after next. Every three months a committee of the exchange makes up a relative price classification of the various yarns that can be offered on delivery. The reclassification in November, 1913, fixed the relative price for yarns in these transactions during February, March, and April, 1914, as follows; the price difference is stated in yen per bale:

NO. 16 COTTON YARN WITH RIGHT-HAND TWIST.

Mills.	Trade-mark.	Difference above (+) or below (−) stand- ard.
		Yen.
Kanegafuchi Boseki.....	Ran Gio (blue fish).....	+3.50
Settsu Boseki.....	Tachi Uma (standing horse).....	+2.50
Osaka Godo Boseki.....	So Roku (two deer).....	+2.00
Kanegafuchi Boseki.....	Tsurigane (temple bell).....	+2.00
Osaka Godo Boseki.....	So Roku (two deer) ^a	+1.00
Settsu Boseki.....	(Mark in triangle).....	+1.00
Kurashiki Boseki.....	Samba (three horses).....	+1.00
Fukushima.....	Funa Bijin (beauty on boat).....	+1.00
Do.....	Sen Men (folding-fan, open).....	Standard.
Kanegafuchi Boseki.....	Ka Cho (flower and butterfly).....	(b)
Osaka Boseki.....	Kin Zo (golden elephant).....	−1.00
Do.....	OP ¹ / _x	−1.00
Kurashiki Boseki.....	Samba (three horses) ^a	−1.00
Sakai Boseki.....	Tenjin (Shinto priest).....	−2.00
Do.....	Soki (mutual enjoyment).....	−2.00
Do.....	Kuro Fuji (Mt. Fuji, in black).....	−2.00
Settsu Boseki.....	Hei (a Japanese character).....	−2.00
Handa Boseki.....	Chosen Soshi (farewell to child).....	−3.00
Do.....	Sanyo (three sheep).....	−4.00
Miye Boseki.....	Konsan (three Japanese characters in dark blue).....	−4.00
Sanuki Boseki.....	Japanese character “Sa” in diamond.....	−5.00

NO. 20 COTTON YARN WITH LEFT-HAND TWIST.

Kanegafuchi Boseki.....	Tsurigane (temple bell) ^c	+4.00
Do.....	Ran Gio (blue fish).....	+4.00
Osaka Godo Boseki.....	So Roku (two deer).....	+3.00
Settsu Boseki.....	Japanese character “Se” in triangle.....	+3.00
Do.....	Kiyaku (phoenix).....	+3.00
Kanegafuchi Boseki.....	Tsurigane (temple bell) ^d	+ .50
Do.....	San Kwan (three rings).....	+ .50
Meiji.....	Jitsu Getsu (sun and moon).....	+ .50
Settsu Boseki.....	Mark of Koriyama branch mill.....	Standard.
Kanegafuchi Boseki.....	Inu (dog).....	(b)
Fukushima Boseki.....	Kairio Fukusoke (prosperous fellow).....	(b)
Osaka Boseki.....	Shiro (white).....	− .50
Kurashiki Boseki.....	Samba (three horses).....	− .50
Miye Boseki.....	Oka San (three red).....	− .50
Fuji Gas Boseki.....	Ito Fuji (“Fuji yarn”).....	− .50
Sakai Boseki.....	Soki (mutual enjoyment).....	−1.50
Tokyo Boseki.....	Aka Botan (red peony).....	−1.50
Do.....	Aka Kamewari (breaking red vase).....	−1.50
Wakayama Boseki.....	Crest in double circle.....	−1.50
Do.....	Hi Garasu (sun and crow).....	−1.50
Matsuyama Boseki.....	Matsu (pine).....	−1.50
Do.....	Matsu Kuruma (pine on cart).....	−1.50
Naigai Wata Boseki.....	Karako (Chinese children).....	−1.50

^a These quotations are for domestic packing; other quotations are for the export, or foreign, style bale of 400 pounds containing 40 bundles of 10 pounds each. Domestic, or half, bales weigh only 200 pounds and contain 20 bundles of 10 pounds each.
^b Same as standard.
^c Produced in Kwansai.
^d Produced in Tokyo.

NO. 20 COTTON YARN WITH LEFT-HAND TWIST—Continued.

Mills.	Trade-mark.	Difference above (+) or below (−) stand- ard.
		Yen.
Terada Boseki.....	Futaba Tsuru (two storks).....	−1.50
Sanyo Boseki.....	Ichiwa Karasu (one crow).....	−2.00
Kishiwada Boseki.....	Aka Ebisu (God of Prosperity in red).....	−2.00
Do.....	Ki Ebisu (God of Prosperity in yellow).....	−2.00
Ehime Boseki.....	Oban (old coin of oval shape).....	−2.50
Takaoka.....	Hashi (star).....	−2.50
Ozu Hosoi to Boseki.....	Kiku (chrysanthemum).....	−3.00
Kurashiki Boseki.....	Wago Jin (crowd of people).....	−3.00
Handa Boseki.....	Chosen Soshi (farewell to child).....	−3.00
Nippon Boseki.....	Takara (treasures).....	−3.50
Handa Boseki.....	Sanyo (three sheep).....	−3.50
Shikama Boseki.....	Kanoko (a fawn).....	−3.50
Sanuki Boseki.....	Japanese character “Sa” in diamond.....	−5.50

No other yarn can be offered for delivery on contracts for these numbers unless they have been examined and their price relative to the standard fixed 40 days in advance of such offering.

The foregoing ratings are given to show that there is considerable variation in the prices of the same counts made by different mills. In the future transaction contracts for 16s weft, the standard taken is that made by the Fukushima Boseki and in 20s warp the standard taken is that made by the Koriyama mill of the Settsu Boseki. These are the principal counts made in Japan, especially for export trade, hence are the only two quoted on the exchange.

FUNCTIONS OF EXCHANGE.

The Osaka Sampin Torishikisho is purely a speculative market and occupies the same position in the Japanese yarn trade that the New York Cotton Exchange, for instance, holds in the American raw cotton market. The prices quoted on the yarn exchange at Osaka for the standards in 16s and 20s correspond to the prices quoted on the New York Cotton Exchange for the standard grade of cotton, which is there taken as middling. The analogy further applies to the fact that this yarn exchange is used both for wild speculation and for legitimate hedging, that it has considerable effect on the actual spot markets, but that the prices quoted there for the standards and the variations between the standards and others may be, and at times are, quite different from those ruling for actual transactions on the spot market.

The foregoing list, however, gives an idea of the variations in the prices of 16s weft and 20s warp made by various mills, the price variations being due to the fact that some mills prepare and spin much better than others, and that there is quite a difference in the various yarns, owing to the proportions of various cottons used in the mixings.

IMPORTATION OF YARN.

The importation of cotton yarn into Japan may be divided into two periods, first, the period of advancing imports up to the end of 1888, and, second, the period of declining imports that followed. The official statistics of Japan record the imports of cotton yarn as follows:

Years.	Quantity.	Value. ^a	Years.	Quantity.	Value. ^a
	<i>Kin.</i>	<i>Yen.</i>		<i>Kin.</i>	<i>Yen.</i>
1868.....	3,658,694	1,239,580	1891.....	17,337,600	5,589,290
1869.....	5,918,040	3,418,148	1892.....	24,308,491	7,131,980
1870.....	8,862,559	4,522,194	1893.....	19,405,152	7,284,243
1871.....	7,968,229	3,520,141	1894.....	15,942,797	7,977,366
1872.....	13,033,723	5,335,141	1895.....	14,591,083	7,082,975
1873.....	9,528,228	3,400,225	1896.....	20,014,128	11,372,001
1874.....	10,488,565	3,573,257	1897.....	16,090,855	9,625,258
1875.....	13,493,308	4,058,036	1898.....	15,929,991	8,547,589
1876.....	14,699,986	4,151,664	1899.....	8,210,647	4,963,326
1877.....	15,035,465	4,084,714	1900.....	9,050,988	7,043,046
1878.....	27,394,331	7,205,931	1901.....	5,994,621	4,873,738
1879.....	23,571,300	6,179,857	1902.....	2,697,638	1,747,875
1880.....	28,597,132	7,700,477	1903.....	1,061,633	766,287
1881.....	27,726,436	7,263,776	1904.....	537,712	343,290
1882.....	25,297,100	6,572,012	1905.....	2,235,025	1,701,866
1883.....	26,640,625	6,164,721	1906.....	5,652,999	4,656,342
1884.....	21,186,798	5,153,252	1907.....	1,785,536	2,020,304
1885.....	21,397,380	5,190,095	1908.....	1,365,332	1,395,760
1886.....	24,630,386	5,905,457	1909.....	961,478	868,739
1887.....	33,296,530	8,235,204	1910.....	304,876	344,187
1888.....	47,439,639	13,611,898	1911.....	552,924	684,463
1889.....	42,810,912	12,522,039	1912.....	568,648	630,732
1890.....	31,909,302	9,928,092			

^a For value of the yen prior to 1897 see p. 11.

TREND OF YARN TRADE.

The imports of cotton yarn gradually increased from 3,658,694 kin (4,839,611 pounds) in 1868 until they reached a maximum of 47,439,639 kin (62,751,731 pounds) in 1888. The value in 1888 was 13,611,898 yen, or, with the yen equivalent to 75.3 cents, \$10,449,759, giving an average value of 16.6 cents per pound. At that time the imports of Indian yarn had increased rapidly until they slightly exceeded those from England.

In 1889 the imports were almost as large, but since that year they have decreased steadily. Though this decline was due in part to the imposition of higher tariffs, it was more largely caused by the increased output of the Japanese mills. At first, as the mills began to increase during the eighties, they were almost swamped by the rising tide of yarn from India, and hand-loom weavers preferred the foreign yarn because it was not only better spun but also made of better material. Moreover, the chief yarn coming from India was No. 20, while at that time no Japanese mill made yarn as fine as this, most of them running on counts under No. 16. In 1890 the association passed resolutions requiring the mills to use better raw material and to make at least

some No. 20 or finer yarn in each mill. By the time the crisis of 1890-1892 was over the mills were in position to meet the competition of Indian coarse counts and gradually drove them off the market. The mills turned from Chinese to Indian cotton and mixed in American cotton until the home yarns were of better quality than those imported, which were entirely of Indian cotton. By the end of 1900 the imports of Indian yarns ceased entirely, and the Indian spinners have since had a hard time to hold their own against Japanese yarn in their chief market in China.

As the country became more prosperous the demand for fine goods and for fine yarns gradually increased. The English were able to maintain their share of the yarn market for a longer period, though as the home mills began to make medium and then fine yarns the counts supplied by England were forced up to a higher level. With the increased production of fine yarns in Japan since 1898 the sales of English yarns have gradually dwindled, though England still supplies a small amount of the higher counts, especially gassed yarns, from No. 60 to No. 100. In time the Japanese expect to shut out these, and there will then be no importation of yarn, excepting possibly a few specialties.

YARN IMPORTS FROM VARIOUS COUNTRIES.

The imports of foreign yarns, by countries, since 1885 have been as follows:

Years.	British India.	United Kingdom.	All others.	Total.
	<i>Kin.</i>	<i>Kin.</i>	<i>Kin.</i>	<i>Kin.</i>
1885.....	9,266,181	12,131,199	.....	21,397,380
1886.....	11,055,090	13,575,296	.....	24,630,386
1887.....	17,065,479	16,231,051	.....	33,296,530
1888.....	24,164,098	23,274,999	542	47,439,639
1889.....	24,146,458	18,658,291	6,163	42,810,912
1890.....	13,970,023	17,911,109	27,570	31,909,302
1891.....	4,548,054	12,787,408	2,138	17,337,600
1892.....	8,258,369	16,048,337	1,785	24,308,491
1893.....	4,865,040	14,527,812	12,300	19,405,152
1894.....	2,333,625	13,606,172	3,000	15,942,797
1895.....	1,341,691	13,247,316	2,076	14,591,083
1896.....	856,222	19,157,718	188	20,014,128
1897.....	106,607	15,984,017	231	16,090,855
1898.....	105,915	15,809,158	14,918	15,929,991
1899.....	75,599	8,130,482	4,666	8,210,647
1900.....	30,239	9,010,637	10,112	9,050,988
1901.....	.....	5,984,120	10,501	5,994,621
1902.....	.....	2,689,260	8,378	2,697,638
1903.....	.....	1,027,811	33,822	1,061,633
1904.....	.....	503,586	34,126	537,712
1905.....	12,907	2,171,197	50,921	2,235,025
1906.....	.....	5,576,215	76,784	5,652,999
1907.....	.....	1,674,643	111,493	1,785,536
1908.....	.....	1,298,889	66,443	1,365,332
1909.....	.....	907,327	54,151	961,478
1910.....	.....	209,771	95,105	304,876
1911.....	.....	441,946	110,978	552,924
1912.....	.....	461,231	107,417	568,648

India, on coarse yarns, and the United Kingdom, on fine yarns, were for a while the only competing countries, but when imports of coarse counts from India ceased competition with England was begun by other countries making finer yarns, mainly Germany.

TRADE IN 1912.

The total imports rapidly declined after 1900, though a temporary spurt was made during the boom after the Russian War. The imports of yarn in 1912 were from the following countries:

Countries.	Quantity.		Value.		Average value per pound.
	Kin.	Pounds.	Yen.	Dollars.	
United Kingdom.....	461,231	610,103	534,069	265,966	<i>Cents.</i> 43.59
Germany.....	86,242	114,078	80,031	39,855	34.93
Belgium.....	19,786	26,172	15,550	7,744	29.59
France.....	1,389	1,837	1,082	539	29.34
Total.....	568,648	752,190	630,732	314,104	41.76

As England supplies proportionately more gassed yarns, its yarns average higher in price than the others.

CHARACTER OF YARN IMPORTED.

According to the classification adopted in 1903 the imports of cotton yarn were divided as follows:

Years.	Single.	Two-ply.	Gassed.	All others.	Total.
	<i>Kin.</i>	<i>Kin.</i>	<i>Kin.</i>	<i>Kin.</i>	<i>Kin.</i>
1903.....	593,599	374,628	80,213	13,193	1,061,633
1904.....	338,758	143,079	48,460	7,415	537,712
1905.....	619,817	979,729	621,274	14,205	2,235,025
1906.....	1,308,860	2,301,368	1,986,993	55,778	5,652,999
1907.....	414,019	358,069	883,819	129,629	1,785,536
1908.....	326,991	200,320	774,350	63,671	1,365,332
1909.....	227,233	154,286	489,148	90,811	961,478
1910.....	84,285	12,251	109,191	99,149	304,876
1911.....	155,972	43,725	220,763	132,464	552,924

In 1912 the classification was changed and the imports of yarn were stated as follows: 438,709 kin, valued at 514,944 yen, of grey yarn; 6,654 kin, valued at 7,993 yen, of bleached yarn; and 123,285 kin, valued at 107,795 of other yarns; total, 568,648 kin, valued at 630,732 yen.

Of the 568,648 kin of cotton yarns imported in 1912, 302,787 kin were entered at Kobe, 256,482 kin at Yokohama, and 9,379 kin at Osaka.

Little more than the figures are needed in regard to the imports of cotton yarn into Japan to show that this trade is becoming a closed chapter.

EXPORTATION OF YARN.

CHRONOLOGICAL SUMMARY.

By 1880 the production of hand-spun yarn had declined until it was no longer a factor in the home trade, but the Japanese mills met with severe competition on their coarse counts from Indian yarns and experienced so much trouble in winning their home market that they were not in position to start competition abroad.

In 1890, however, during the severe economic crisis, there was such a congestion of yarn that the mills began to consider the possibility of finding an outlet for some of it abroad. In 1890 the export trade was started with a sample shipment of 31 bales. From this small beginning the export trade has progressed, with many ups and downs, until cotton yarn is now, next to raw silk, the chief export from the country.

STATISTICAL SUMMARY OF EXPORT TRADE.

The complete history of the cotton yarn export trade of Japan is summarized as follows:

Years.	Associa- tion statist- ics.	Government statistics.				Average price per pound.
		Quantity.		Value.		
		Kin.	Pounds.	Yen.	Dollars.	
	<i>Bales.</i>					<i>Cents.</i>
1890.....	31	9,337	12,351	2,364	2,066	16. 73
1891.....	108	32,387	42,481	7,873	6,117	14. 40
1892.....	109	32,754	43,326	7,720	5,288	12. 20
1893.....	1,053	315,993	417,457	59,176	36,097	8. 65
1894.....	11,800	3,538,868	4,681,108	955,530	473,943	11. 35
1895.....	11,780	3,532,893	4,673,205	1,034,479	530,688	12. 37
1896.....	43,294	12,974,713	17,162,561	4,029,425	2,123,507	12. 08
1897.....	140,116	42,034,975	55,602,606	13,490,197	6,718,118	12. 36
1898.....	229,446	68,833,763	91,051,237	20,116,586	10,018,060	12. 36
1899.....	341,162	102,360,832	135,399,838	28,521,438	14,203,676	10. 49
1900.....	208,333	62,619,660	82,831,408	20,589,263	10,253,453	12. 38
1901.....	209,167	62,751,795	83,006,192	21,465,573	10,689,855	12. 88
1902.....	197,481	59,244,283	78,366,560	19,901,522	9,910,958	12. 65
1903.....	307,202	92,160,808	121,907,552	31,418,614	15,646,470	12. 83
1904.....	257,307	77,192,453	102,107,861	29,268,456	14,575,691	14. 27
1905.....	267,383	80,215,088	106,106,112	33,246,462	16,556,738	15. 60
1906.....	267,348	80,204,406	106,091,982	35,303,526	17,581,156	16. 57
1907.....	223,964	67,941,393	89,870,836	30,342,914	15,110,773	16. 81
1908.....	167,842	50,353,065	66,605,524	20,723,904	10,320,504	15. 40
1909.....	258,878	77,663,396	102,730,810	31,656,770	15,765,071	15. 35
1910.....	347,633	101,167,767	133,821,687	45,346,964	22,582,788	16. 88
1911.....	285,009	78,654,361	104,041,629	40,213,289	20,026,218	19. 25
1912.....	374,932	106,169,458	140,437,774	53,680,746	26,733,012	19. 08
1913 <i>a</i>	236,372	68,865,522	91,093,246	35,319,532	17,589,127	19. 29

^a Six months.

PROMOTION OF EXPORT TRADE.

The inauguration of an export trade in cotton yarn was due to the Japan Cotton Spinners' Association. At the important meeting of 1890, called to consider the critical state of the industry and the great yarn congestion, the question of developing a foreign market for surplus yarn was one of the principal matters discussed. A committee of seven spinning mill owners was appointed to consider the feasibility of this project and it reported as follows:

1. To realize the export of yarn the mills should be prepared to export at a loss for five years. The export should not amount to more than 30,000 bales per annum.

2. Every mill should export for every 1,000 spindles 1 bale of yarn, with an extra 5 bundles (of 10 pounds each) for the last fraction of a thousand spindles. The export should consist of about 70 per cent No. 20 warp and 30 per cent Nos. 12, 14, and 16 weft. Mills exporting more than their allotment could do so, but at their own risk.

3. The price of the yarn exported should be 2 yen per bale cheaper than the selling price in Japan.

4. When in the sale of the yarn a profit is realized this should be divided in proportion to the number of bales exported; in case of a loss, however, this should be charged to all the mills in proportion to their number of spindles and regardless of whether they have exported yarn or not. This method of proportioning profit or loss should apply to the first year's sales, after which a further contract may be arranged if desired.

5. A special committee should be appointed of three spinning mills to devise ways and means of collecting the yarn, packing and shipping, and of effecting the sale in Shanghai and neighborhood.

These propositions were adopted and in 1890 a trial shipment was made to China of 31 bales, weighing 12,351 pounds and valued at \$2,066.

In 1891 there were exported 108 bales, totaling 32,387 kin (42,481 pounds), of which 25,952 kin were sent to Korea and 6,435 kin to China. In 1892 there were exported 109 bales, totaling 32,754 kin, of which 32,083 kin were sent to Korea and only 671 kin to China proper. In 1893 there were exported 1,053 bales, totaling 315,993 kin, of which 265,117 kin were taken by China and 26,962 kin by Korea, while a market for 23,914 kin was found in Hongkong.

By this time the mills had begun to use more Indian and less Chinese cotton, thus improving the quality of the yarn. This, with the low price in 1893, gave them a foothold in China.

ABOLISHMENT OF EXPORT DUTY.

On July 1, 1894, the Japanese Government, in response to the repeated representations of the industry, canceled the export duty on cotton yarn. The mills immediately called a meeting to take advantage of the changed conditions. They decided to cooperate in furthering the export trade, which had become more necessary to them with the increase in production, and to this end it was deemed necessary to make a better name for Japanese yarn. The mills were asked to improve the quality offered for export, to standardize the weight and packing, to place in every bale the mill trade-mark and the mark of the association, and to put the association mark on the covering. Penalties were provided for those not adhering strictly to the rules.

The time was favorable, as exports of Indian yarn to China that year were lessened by the unfavorable exchange between those countries caused by the reform of the Indian currency in 1893; more-

over, the cost of transporting Indian yarn was much greater than that on Japanese yarn. The Japanese trade suffered somewhat because of the war with China and also from the doubling of the Shanghai likin tax from 1.26 to 2.52 taels per bale, but favored by the setback to their main competitor they increased their yarn exports to 11,800 bales. The next year, with heavier shipments from India, Japanese sales in China decreased, but a larger amount was sent to Korea, so that the year's exports were about the same, amounting to 11,780 bales in 1895 as against 11,800 in 1894. Before the war with China the shipments of Japanese yarn to Korea were entirely in the hands of Chinese merchants, and the intermediate charges were heavy, so that the price at which merchants quoted Japanese yarn in Korea was too high to permit much trade. With the closing of the war in the spring of 1895 the Japanese eliminated the Chinese merchants, and got in direct touch with the consumer, with the result that over 30 per cent of their exports in 1895 were taken by Korea and the basis was laid for a steady trade.

In 1896 the Indian mills were temporarily paralyzed by the outbreak of plague in Bombay, and the Japanese mills promptly seized the opportunity to establish their footing in the most important yarn-importing country of the world. The Indian mills were hampered not only by the plague but because of the unfavorable exchange caused by the decrease in the price of silver. No. 20 yarn, for instance, sold in Shanghai at 72 taels per picul, while the equivalent price in Bombay was 80 taels, as against the Kanegafuchi price in Japan of only 70 taels. In the first part of 1897, the period of the year when the Chinese demand is strongest, Japanese prices were still low; moreover, the Japanese, by the mixture of American with Indian cotton, had improved their yarn until it was of better quality than the Bombay yarn made of Indian cotton exclusively. Chinese and Korean purchases increased greatly, while the exports to Hongkong rose from 272,800 kin in 1896 to 9,338,935 kin in 1897. The total yarn exports increased from 11,780 bales in 1895 to 43,294 bales in 1896 and 140,116 bales in 1897.

GOVERNMENT ASSISTANCE IN FINANCING EXPORTS.

In 1897 the gold standard was adopted in Japan, and with the decreasing price of silver the mills found their export trade endangered. A meeting of manufacturers was called, at which it was decided that as the situation was caused by action of the Government it was reasonable to call on the Government for aid. A committee was appointed to interview the Government and ask special facilities for loans against drafts on export yarns. The Government acceded to the request and gave the Yokohama Specie Bank a capital of 3,000,000 yen to finance the exportation of 10,000 bales of yarn to Shanghai and Hongkong during the ensuing six months, the mills to be advanced 75 per cent of the value of shipments, at 6 per cent, against export documents. This facilitated the handling of the export orders.

At the beginning of 1898 the price of Japanese yarn was low and the mills pushed their export trade to both China and Korea; they also succeeded in selling 15,283,514 kin (20,216,574 pounds) to Hongkong, which still is the record for Japanese yarn sales to that place. The total exports for the year were 229,446 bales.

In 1899 the price of Japanese yarn was exceptionally low, the total exports averaging only 10.49 cents per pound, so that there was a great increase in the amounts taken by China and Korea, the former being much the largest. The exports of yarn to Hongkong decreased because of the rebellion in the Canton section, as most of the yarn taken by Hongkong was for use in South China. The increase in the Chinese demand, however, was so great, owing mainly to the low price, that the exports for 1899 totaled 341,162 bales, or 135,399,838 pounds, valued at \$14,203,676. So far as concerns quantity, this remained the high-water mark until the new record of 1912.

In 1898 the association had proposed to export regularly 250,000 bales a year and give a rebate of 2 yen as an export premium, and had also requested the Government to guarantee this export premium to the amount of 500,000 yen. The Government had declined and instead recommended that the mills try to increase their financing powers. In 1899, however, the Bank of Japan gave the Yokohama Specie Bank 3,000,000 yen to finance the export trade in yarn. As the contract between the Yokohama Specie Bank and the association is still of interest to-day it is given below:

1. The Yokohama Specie Bank will give in its branches in Shanghai and Hongkong, against the deposit of the goods, an advance of 80 per cent of the ruling value of the goods, either cotton yarn or cotton cloth. Should, however, the value of the goods increase greatly, then the average of the last three months shall be taken.

2. Interest to be at the rate of 6 per cent and the period of the loan not to be over two months. However, this period can be prolonged at the discretion of the bank.

3. Claim papers made out according to the law of the land shall be given to the branch of the Yokohama Specie Bank concerned.

4. The above-mentioned credit of 3,000,000 yen is a revolving one and the Yokohama Specie Bank gives to the members of the association loans, according to paragraph 1 above, in rotation according to priority of application.

5. When members of the association export yarn or cloth from Yokohama, Kobe, or Nagasaki, and wish to issue bills of exchange the Yokohama Specie Bank will meet them, as far as the 3,000,000-yen credit permits. Drafts to be drawn at 13 days and exchange based on 10 days' sight.

6. The amount of the draft is to be based on the ruling price of yarn and cloth, including freight and insurance, as acknowledged by the Yokohama Specie Bank, and the credit is to be from 70 to 75 per cent of the value, at the option of the bank.

7. When a member of the association exports yarn or cloth and does not issue drafts against it, but wishes to obtain an advance on it from the Yokohama Specie Bank, he can do so by bringing a security.

8. This contract can be canceled at the option of the Yokohama Specie Bank, but three months' notice shall be given to the association. In that case all money so advanced shall be repaid according to the stipulations in the contract.

The mills at that time were very short of working capital as compared with their fixed capital or with the amount of business done. In addition, the credit conditions of the country as a whole were bad and money tight, and the mills had difficulty in getting the banks to finance their exports even at high rates of interest. This action of the Government in putting 3,000,000 yen at the disposal of the yarn exporters at the comparatively low rate of 6 per cent was therefore a great help to the trade.

In May, 1900, came the Boxer outbreak in China. This not only caused a sharp decline in the yarn exports, but affected the whole industry adversely for two or three years, causing short time, amalgamations, and failures. The crisis of this period was largely due to the unsound financial position of industrial concerns operating with borrowed working capital, so that any tightness in the money market immediately affected their workings. The Boxer troubles only served

to bring this to a head. From the 341,162 bales of 1899 the exports of yarn dropped to 208,333 bales in 1900, to 209,167 bales in 1901, and to 197,481 bales in 1902.

REBATE SYSTEM PROVES FAILURE.

With the unsatisfactory condition of the yarn trade at home as well as abroad the mills again began to debate a proposition discussed at previous meetings relative to the advisability of promoting the export trade by premiums. The plan was to use for this purpose the rebates on the cotton freight from Bombay to Japan, which, according to the contract between the association and the Nippon Yusen Kaisha, are divided among the members of the association in proportion to the quantities of Indian cotton carried for them by this line. On September 5, 1902, a special meeting was called and after heated debate the proposition was carried and a committee named that laid down the following conditions:

Premiums shall be paid not only on the export of yarn of No. 20 and under, but also for ply yarns of the same qualities and for cotton cloth, but only when directly exported.

The premium shall amount to 3 yen per bale (of 300 kin or 400 pounds of yarn), and to 1.10 yen per 300 kin of cloth.

All who wish to obtain this premium for yarn or cloth specially made for export must register in a book kept by the association. A register shall also be kept for those who export on their own account. The first kind of export goods (yarn) should be exported within one month after the finish of the delivery period, which should not be longer than three months. In the case of cloth the goods must be shipped within one month after the date of registration on penalty of having the exporter's name removed from the register and the payment of a fine equal to the amount of the export premium.

The booking periods are divided as follows: December 1 to May 31 and June 1 to November 30. The premium on yarns and cloths exported during the first period will be distributed on July 15 and for those exported during the second period on January 15; every time, however, against the return of the certificate which one must obtain when producing the bill of lading and the special export permit certified to by the association.

In case the premium in any one period should not be covered by the cotton freight rebates paid by the Nippon Yusen Kaisha, or if there is a surplus, such shall be settled at the next period.

In case premiums are obtained by false pretenses on goods to which the premiums do not apply, then the exporter shall forfeit not only the premium, but also the right to register.

This arrangement came into force September 15, 1902. From the very beginning it was criticized and difficulties arose. On the one hand there were differences of opinion between the spinning mills in the Provinces of Owari and Ise and the others who, against the wishes of this group of mills, had obtained a majority sufficient to force through the measure. On the other, the Chinese merchants residing in Japan formed an agreement under a heavy penalty to buy no Japanese yarn unless the premium was paid in cash at the time of export.

This caused a cancellation of the whole premium arrangement at a special meeting called September 29, 1902. The register was closed on that day and premiums paid only to those who had registered their goods from September 15 to 29 for export not later than October 25.

The yarn registered from the 15th to the 29th of September, 1902, amounted to 19,064 bales, on which was paid an export premium of 57,192 yen, and the amount of cloth was 656,931 kin, on which there was paid an export premium of 2,408.75 yen. As it was obvious that

the premium arrangement would be canceled at the meeting on September 29, no less than 8,032 bales of yarn and 72,257 kin of cloth were registered on that day in order to obtain the premium. Thus the export-premium system ended within 15 days after it had been put in force and without having accomplished any benefit to the industry.

CONDITIONS FOLLOWING WAR WITH RUSSIA.

In 1903 a better demand from China and improved working conditions were responsible for an increase of the yarn exports to 307,202 bales. On February 10, 1904, war was declared with Russia and this led to a decreased output from the mills. Very soon, however, with the demand that arose for yarns to make the supplies required by the army, the production expanded, and upon the victorious ending of the war the industry entered on a period of great prosperity, with every mill working to its full capacity. The production increased considerably, but with the larger demand from the hand looms, as well as from the increasing number of power looms in mills making cloths for which a market had been found in Manchuria, the exports of yarn remained stationary, amounting to 257,307 bales in 1904, 267,383 bales in 1905, and 267,348 bales in 1906; with higher prices they declined to 223,964 bales in 1907. During 1907 production began to overtake demand, and with the collapse in the boom and tighter money the mills by 1908 were once more faced with the necessity of running short time.

In spite of the reduction of output by short time there was a great congestion of yarn and declining prices at home, while the demand for Japanese yarn in China was rapidly decreasing, owing partly to the depreciation of silver and partly to the greater activity of Indian spinners in that market. In February, 1908, the total mill cost of making a bale (300 kin or 400 pounds) of No. 20 cotton yarn was stated to be 125 yen, of which 105 yen represented the value of the mixed cotton used and 20 yen the cost of manufacturing. Against this, No. 20 yarn was quoted on the Osaka Exchange at only 117 yen for the best and 109½ yen for medium grade. The Shanghai market quotation for the medium grade was 95 taels, which was equivalent to about 113.70 yen a bale. Deducting 1 yen for freight, 30 sen for insurance, and 5 yen for customs duty and other charges and expenses, the price realized in Japan was only 107.40 yen, or a loss of 2.10 yen per bale in shipping to China. In consequence of this there were failures among the yarn merchants, yarn stacked up in the warehouses at Kobe until there was no room for cotton, and, in view of the unfavorable circumstances, bankers hesitated to make advances on bills.

YARN EXPORT LOTTERY.

As there was no prospect of an early improvement in the home demand, the mills concluded that it was necessary to increase their exports, even if they had to sell at a loss. As the demand abroad seemed no better than at home, there was much debate among the mills as to the best way to stimulate foreign demand, especially in China, but it was finally decided to hold lotteries, for which tickets (called Keihinken) were to be given with every bale of yarn of which

delivery was taken at the place of import. At first it was proposed to give prizes in money, but as the Shanghai consular body objected the prizes were stated in bales and bundles of yarn, of which the value was defined. This system of stimulating yarn exports is so unique that the details are given in full.

On February 18, 1908, at a special meeting of the Japan Cotton Spinners' Association, at which 28 mills were represented, held at the Chamber of Commerce in Osaka, the following action was taken:

ARTICLE 1. All members of the association producing coarse yarns of 20s and under, except yarns to be woven on their own looms, must conform to this agreement.

ART. 2. A committee for fostering exports, to consist of 10, shall be elected from the members of the association.

ART. 3. The committee shall elect five members by mutual vote and shall also elect its chairman.

ART. 4. The members of this committee shall serve for one year and also be eligible for reelection.

ART. 5. Premium tickets on export yarn shall be issued at the place of import, regulations pertaining thereto to be arranged by the committee.

ART. 6. The expense of these premiums shall be charged to those members producing yarns under No. 20, and shall be apportioned on the basis of 50 sen per bale produced, and in addition thereto 25 sen a bale for the same yarn when exported; provided that members suspending 30 per cent of their total spindles shall be released from this obligation.

ART. 7. Members shall conform to the rules and regulations as determined by the committee for fostering exports.

The first meeting of the committee was held at the Osaka Hotel, and after electing Mr. Sanji Muto as chairman it discussed regulations under which lottery tickets were to be issued, the levying of expenses, and the places for stationing branches and agents. It was decided to offer 5 sen per ticket to the agents as commission. The regulations as to the issuing of lottery tickets were adopted as follows:

1. One set of lottery tickets shall be issued for each bale of yarn (packed 40 bundles as the foreign system or 20 bundles as the Japanese system) under No. 20 exported from Japan after March 1, 1908.

2. Those wishing tickets must report the yarn count, the number of bales, trademarks, and bale numbers, also places of departure and destination of the ships.

3. Members of the association shall inclose a copy of the premium arrangements in each bale of yarn exported.

4. All business relating to premium tickets and their issue shall be managed at the association branch at No. 5 Foochow Road, Shanghai, China.

5. Premium tickets pertaining to the yarn shall be offered by the agent or clerks of our branch as soon as a consignment of the steamship company or valid legal documents are presented; provided that if it is impossible to deliver premium tickets at the place of import they shall be handled by some other convenient arrangement.

6. Each lottery-ticket sheet shall be divided into 40 tickets and shall be issued in duplicate.

7. Premium articles shall be offered to possessors of all tickets if not residing in Japan.

8. The articles, numbers, and classes of premiums offered to be as follows: (1) One lot of 80 bales of No. 16 Japanese yarn (costing \$10,000 Mexican); (2) two lots of 24 bales each of No. 16 Japanese yarn (costing total of \$6,000 Mexican); (3) ten lots of 4 bales each of No. 16 Japanese yarn (costing total of \$5,000 Mexican); (4) thirty lots of 1 bale each of No. 16 Japanese yarn (costing \$125 Mexican each); (5) one hundred lots of one-half bale each of No. 16 Japanese yarn (costing \$62.50 Mexican each); (6) nineteen hundred lots of 3 bundles each of No. 16 Japanese yarn (costing \$10 Mexican each); (7) beautiful paintings or sets of fancy post cards to be presented to all lots remaining uncalled.

9. Distribution of premium tickets shall be closed up every two months, and after two months from last date issued the lottery will be held under the most impartial method.

10. The place at which the lottery will be held shall be previously advertised.

11. The results of the lottery drawings shall be advertised in the newspapers or other public manner.

12. Delivery of premium articles shall take place at Shanghai, though premiums of the fifth class and below may be exchanged at our branches or agencies at Tientsin, Hongkong, Newchwang, Tsingtau, Hankow, Chemulpo, Fusan, and Haijo.

13. Delivery of premiums drawn shall commence from the fifteenth day after the result is announced. Those who prefer to receive premium articles by parcel post can do so on payment of the postage.

14. Those not claiming premium articles for a full year after the date advertised shall be considered as not wanting them.

15. If tickets are soiled, broken, or damaged so they can not be proved to be genuine this renders them invalid.

16. The form of ticket system to be used will be fixed separately.

Supplementary : 1. This regulation shall start from March 1, 1908, and shall be applicable to Japanese yarns imported before the above date which are still stored at the ports where imported.

2. During the first period only, March and April of 1908, the associated companies shall inclose two sheets of premium tickets in every bale instead of putting tickets in every bundle of the yarn exported.

APPORTIONMENT OF EXPENSES OF LOTTERY.

In addition to the above regulations made by the committee as to the issuing of tickets and the drawings of the lottery, the following detailed rules governed the apportionment of the necessary expenses:

1. Expenses in connection with this export encouragement shall be charged to the amounts produced of coarse yarns under No. 20, excepting those to be used for weaving at the mill, on the basis of 50 sen per bale of yarn produced, with an additional charge of 25 sen on each bale exported.

2. The above-mentioned apportionment of expenses may be decreased or increased by the committee according to the condition of trade.

3. All mills suspending 30 per cent or more of their total spindles shall be released from the payments mentioned above; provided, however, that involuntary stoppage due to imperfect or damaged machinery or to lack of operatives shall not be deemed suspension in the meaning intended.

4. Members of the association must report the amount of the different kinds of yarn produced each month to the office of the association on the 5th of the following month; provided, they can use a regular association report, as to the yarns produced, in lieu thereof.

5. The committee can inspect their bookings if it seems necessary for their reports.

6. Members of the association making false reports as to their production in order to escape from or lessen the charged expenses shall be charged double expenses.

7. If members of the association neglect to pay their export expense charges the amount due shall be deducted from the amount in the hands of the association due them from the freight rebate on Indian cotton.

List of branches and agencies.—Branch, inspection office of Cotton Moisture Bureau, Shanghai, China; agent, Shin Sho Yoko, Tientsin, China; agent, Mitsui Yoko, Newchwang, China; agent, Mitsui Yoko, Chefoo, China; agent, Mitsui Yoko, Tsingtau, China; agent, Mitsui Yoko, Hongkong; agent, Nisshin Yoko, Hankow, China; agent, Mitsui Bussan, Chemulpo, Chosen; agent, Kumejo Awomi, Fusan, Chosen; agent, Kiyutaro Saito, Haijo, Chosen.

At the second meeting of the committee, held March 5, 1908, it was decided to except doubled yarn from the rules given, in accordance with previous instances of working short time; to charge expenses for the yarns produced from March 1, 1908; and not to charge expenses on yarns still stored at the place of import if imported before March 1, 1908, but same to be entitled to the premiums. The same was to hold good for yarn shipped from the mill before March 1, but which was still in the export harbor and was to be forwarded before March 15. If exported after this date then such yarn was liable to the charge of 25 sen a bale as contribution to the expenses.

At the third meeting of the committee, held April 21, it was decided that for yarns exported to other countries than China (Hongkong being included in China) lottery tickets should not be given, but instead thereof a premium of 75 sen a bale. Members, to obtain this premium, had to produce bill of lading and export certificate, and the premium applied only to yarn for which the contract was made from the day of this regulation and within the period of issuing of the second series, and which must be exported at the latest within 15 days after this period.

At the fourth meeting of the committee, on May 29, it was decided to continue the issue of premiums during a second period of three months from May 1 to July 31 on conditions similar to those of the first period.

On July 7, 1908, a fifth meeting of the committee was held, and it was decided to issue a third series from August 1 to December 31. This was the last issue, for it was found that little was being achieved in the way of practical results. Moreover, the lottery system had been severely criticized from its beginning, and especially by mills which had to sell below or near cost and at the same time give presents to the purchasers.

At a sixth meeting of the committee, on December 3, 1908, it was decided that it was necessary to collect only $12\frac{1}{2}$ sen on each bale produced and, in addition, only $6\frac{1}{4}$ sen on each bale exported, and that after the final balancing of accounts any surplus remaining should be repaid to the members in proportion to the amounts paid in.

LOTTERY DRAWINGS—AMOUNT OF EXPORTS.

The three lottery drawings were held at the town hall in Osaka in the presence of the standing committee of the association, the committee for fostering exports, and Japanese and foreign yarn merchants. These lotteries were held on July 17 and October 5, 1908, and April 2, 1909. The issue of lottery tickets during the three periods was as follows:

Agencies.	March and April.	May, June, and July.	Aug. 1 to Dec. 31.
Shanghai.....	40,979 $\frac{1}{2}$	23,975 $\frac{1}{2}$	21,583 $\frac{1}{2}$
Tientsin.....	8,210 $\frac{1}{2}$	2,255	2,589
Chefoo.....	1,670	5,417	5,482 $\frac{1}{2}$
Tsingtau.....	4,581	3,290	6,700
Newchwang.....	2,923	1,860	3,255
Hankow.....	4,121	.....	460
Chemulpo.....	2,544	184 $\frac{1}{2}$	.....
Fusan.....	1,595	243	.....
Haijo.....	1,861 $\frac{1}{2}$	95	.....
Total.....	68,485 $\frac{1}{2}$	37,320	40,070

During the second period cash export premiums were paid on the shipment of 3,131 $\frac{1}{2}$ bales, of which 1,150 went to Hongkong, 675 to Manila, and 1,306 $\frac{1}{2}$ to Chosen; during the third period cash export premiums were paid on 11,189 $\frac{1}{2}$ bales, of which 1,393 went to Hongkong, 467 to Manila, and 9,329 $\frac{1}{2}$ to Chosen.

The number of bales of cotton yarn exported during the life of the export yarn lottery scheme, from March 1 to December 31, 1908, was as follows:

Mills.	Bales.	Mills.	Bales.	Mills.	Bales.
Settsu.....	22,460	Kasaoka.....	2,446½	Kubokichi.....	42
Kanegafuchi.....	21,343	Sanuki.....	2,215	Watanabe.....	41½
Fukushima.....	17,253	Sakai.....	1,462	Ehime.....	25
Kishiwada.....	12,521½	Osaka.....	1,444	Shikama.....	10
Kennshi.....	12,068	Miye.....	990	Kosho.....	10
Kurashiki.....	9,750	Wakayama.....	390	Naigai Wata.....	7
Harima.....	3,423½	Shimomura.....	175		
Osaka Godo.....	2,656½	Tokyo.....	100	Total.....	113,443
Handa.....	2,539½	Matsuyama.....	70		

Of some 36 mills at that time, only 24 participated in the yarn export trade and about seven-eighths of the exports were furnished by six mills, the Settsu, Kanegafuchi, Fukushima, Kishiwada, Kennshi, and Kurashiki.

This was the first and last attempt to stimulate foreign demand for yarn by means of a lottery. As it had not been successful (in fact, the exports of yarn for the whole of 1908 were only 167,842 bales, as against 223,964 bales in 1907) and as the mills, though continuing on short time, still had trouble in marketing their output, it was decided to try another system of promoting exports, in this case by giving premiums to the mills exporting.

At a meeting on December 12, 1908, while the mills were still restricting output in accordance with their agreement, the following regulations were adopted to increase their exports:

1. The monthly export of yarn will be fixed at 10,200 bales. This will be apportioned to the mills on the basis of the amounts exported by them during the period from July 1 to October 31, 1908. If a mill exports in excess of the quantity apportioned to it, it can put in motion again as many spindles as are necessary to produce this excess quantity.
2. The yarn produced in this way must be exported within one month.
3. Detailed rules relative to regulations No. 1 and No. 2 will be arranged by the committee for fostering exports.
4. When a spinning mill, without restarting machinery that has been stopped, exports yarn in excess of its apportionment, it shall be given a premium of 3 to 5 yen a bale.
5. The contributions to cover these expenses shall be paid by the mills in proportion to their production of yarn No. 20 and lower.
6. Any mill is at liberty to restart the machinery that has been stopped if it produces therewith yarn over No. 28. Regulation No. 2 does not apply in such case.
7. These regulations come into force on January 1, 1909.

The committee for fostering exports made up detailed rules in regard to the above export regulations, and these were confirmed in a general meeting on December 24, 1908, as follows:

1. When, in accordance with regulations 1 and 6, a mill wishes to work spinning machinery that has been stopped, it shall forward, with its petition for using same, its name, the number of spinning machines, the number of spindles per machine, the number of working days, and the yarn counts on which these machines are to work.
2. When a spinning mill, in accordance with regulation 1, puts machinery in motion again, the amount of yarn to be produced thereby will be calculated on the basis of a spindle producing per day ¹ 100 momme (0.8267 pound) of No. 20 warp yarn and 130 momme (1.0747 pounds) of No. 16 weft yarn. These amounts, however, will be reduced by 10 momme (0.08267 pound) each during the months of July, August, and September.

¹ Working day includes day and night.

3. Those spinning mills which, in accordance with regulation 1, have put into motion machinery that was at rest must export within one month the yarn so made; as far as the control is concerned the calculations stated in rule 2 will be taken as the basis. In addition they have to export the amount apportioned to them in regulation 1. In case it is impossible to export the yarn thus produced within one month, ten days' grace will be allowed. If not exported by that time, it must be stored in a warehouse designated by the chairman of the committee for fostering exports. The storing, as well as the delivery of these yarns, requires the permission of the chairman of the committee of the association. It is, however, absolutely required that these yarns be exported within one month from the date on which they were stored.

4. When a spinning mill without using machinery that has been stopped in accordance with the agreement for limitation of production, exports in excess of its fixed proportion, or by using such machinery, exports in excess of the quantities used as a basis in rule 2, then such mill can ask permission to put in motion again as many machines as is warranted by the excess quantity exported.

5. When a mill, according to regulation 1, restarts machinery that has been standing it must furnish the name of the shipper as well as the name of the ship on which the goods are exported, the date of sailing and the port of destination, to the committee on the 5th of the next month for all quantities exported.

6. When a mill does not follow rules 3 and 5 or produces on the restarted machinery coarser yarn than is allowed by regulation 6, then, according to the agreement for limitation of production, it must pay a fine of 1 yen per spindle per day for the total number of spindles that it has restarted.

7. The amount of the premium allowable under regulation 4 is hereby limited at 4 yen a bale during the period from January 1 to April 30, 1909.

8. This export premium will be given when the yarn exported during two months is over double the monthly apportionment and then only for the surplus.

9. Spinning mills which export over 60 per cent of their yarn production will be entitled to the export premium, disregarding the quantity prescribed in regulation 1 for that part exceeding 60 per cent.

10. The quantity to be considered according to regulation 4 shall be that as shown by the Japanese customs report.

11. On the basis of the report of the various customhouses three reports of the exports of yarn will be published each month.

12. The export premiums will be paid on June 25 for the six months from December 1 to May 31, and on December 25 for the six months from June 1 to November 30, respectively. However, should the limitation of production agreement be canceled on April 30, 1909, the period during which export premiums will be paid will be closed with the four months January to April and the division of premiums will take place on June 25.

13. The contributions to be raised for the expenses in accordance with regulation 5 will be payable semiannually on or before June 25 for the December to April period and on or before December 25 for the May to November period. If they are not received by the dates mentioned, the amount due will be deducted from the freight rebate credits due such mills on the transport of Indian cotton. If the limitation of production agreement be canceled on April 30, 1909, the contributions for the expenses of the four months, January to April, must be paid on or before June 25.

APPORTIONMENT OF EXPORTS.

The share of the various mills in the 10,200 bales monthly yarn export that was taken as a standard was apportioned as follows:

Mills.	Bales.	Mills.	Bales.	Mills.	Bales.
Kanegafuchi.....	2,006	Sanuki.....	432½	Osaka Godo.....	110½
Settsu.....	1,854	Handa.....	425	Tokyo.....	12½
Kennshi.....	1,289	Kibi.....	288	Watanabe.....	12½
Kishiwada.....	938½	Kasaoka.....	175	Shikama.....	4
Fukushima.....	918	Sakai.....	163½	Naigai Wata.....	2½
Kurashiki.....	780½	Osaka.....	155		
Harima.....	520	Miye.....	113	Total.....	10,200

It was decided further that for those mills which were entitled to export premiums, but which did not export one bale for the above-stated apportionment, as also for those mills whose exports per 10,000 spindles did not amount to more than 50 bales, proportionate quantities should be fixed by the committee for fostering exports for the last two months, in accordance with the quantity exported during the first two months after these export-fostering regulations came into force.

CHANGES IN REGULATIONS.

At a general meeting on February 25, 1909, when it was decided to prolong the period of short-time operation, it was also decided to prolong the period of the export-premium arrangements, viz, from May 1 to October 31, 1909. Regulation 1 was changed to read: "When a mill exports yarn in excess of the prescribed quantity, it is at liberty to put in motion again spinning machines in proportion to that excess." The export-premium limit, with the power of the committee to fix the definite amount, as stated in regulation 4, was annulled, and the export premium given to mills exporting in excess of their apportionment was fixed at 3 yen a bale. A new regulation was added, viz, that for every bale of yarn No. 20 and lower exported a premium of 1.50 yen should be paid to the exporter. Regulation 5, relating to the contributions for covering the export-fostering arrangements, was changed to read that in the future contributions should be paid in accordance with the number of spindles available for the production of yarn No. 20 and lower, after deducting those spindles not being worked, but not deducting those spindles set free under regulation 6. Further, regulation 4 had to be renewed every month. To regulation 1 it was added that when spinning mills again put in motion spindles that had been stopped, they could not ask for the stoppage of this machinery again until after two months.

In the meeting of the committee for fostering exports, held on April 14, 1909, there was added to rule 2, relating to yarn calculations, the condition that when mills started up machinery on night work again the production per spindle for a night should be calculated as 55 per cent of the basis stated for a spindle per day.¹

A new table was compiled for the proportion to be exported by each mill monthly for the period from May 1 to October 31, 1909, as follows:

Mills.	Bales.	Mills.	Bales.	Mills.	Bales.
Kanegafuchi.....	1,771½	Osaka Godo.....	175½	Handa.....	50
Settsu.....	1,510	Sakai.....	140½	Shimomura.....	45½
Fukushima.....	804½	Naigai Water.....	117½	Nippon Seifu.....	38½
Kurashiki.....	707	Sanuki.....	107½	Ozu Hosoito.....	37
Kishiwada.....	684	Wakayama.....	75½	Takaoka.....	13½
Kennshi.....	652	Shikama.....	74	Watanabe.....	10½
Osaka.....	296½	Ehime.....	72½		
Miye.....	258	Matsuyama.....	50½	Total.....	7,985½
Tokyo.....	243	Kosho.....	50½		

¹ By day here and in rule 2 is meant the full working period of day and night work.

NEW REGULATIONS ADOPTED IN 1909.

Although the condition of the yarn market gradually improved and prices became firmer, the committee of the association decided on June 23, 1909, to take up again the question of promoting exports, as well as the limitation of production of coarse yarns of No. 20 and under, and requested permission of the various mills. For the new limitation of production and for the promotion of the exports of yarns No. 20 and under the following was proposed:

1. During a period of six months from November 1, 1909, to April 30, 1910, no mill belonging to the association shall work more than 80 per cent of spindles producing yarns of No. 20 and lower whose output is intended for the home trade.

2. When a spinning mill produces yarns of No. 20 and lower by using spindles in excess of the 80 per cent, the quantity so produced must be exported within one month.

3. When spinning mills who have hitherto exported yarn, produced by spindles in excess of the above-mentioned 80 per cent, produce coarse yarn, in addition to the quantity mentioned in article 2 they must export a further prescribed quantity, which will be fixed by a proportionate table. However, this export quantity will be reduced by one-half for mills with less than 10,000 spindles, and reduced by one-third for those with less than 20,000 spindles, and reduced by one-fourth for those with less than 30,000 spindles.

4. For the export of yarn No. 20 and lower a premium of 1.50 yen per bale will be given to the exporter.

5. Those mills which, without using spindles in excess of the 80 per cent, export in excess of the prescribed amounts of paragraph 3 will be given a premium of 2 yen per bale on the surplus.

6. Every mill is at liberty to stop the night work for two months instead of stopping 20 per cent of the spindles.

7. Mills which produce coarse yarn for weaving in their mills into coarse cloth and ply-yarn cloth are exempt from the above. However, such spindles as produce yarn for weaving cloth that is intended for the home trade are subject to the limitation.

8. As far as the execution of these rules is concerned, and in regard to misunderstandings, the same rule applies as that passed at the meeting of February 25, 1909. The details of the arrangements for levying contributions will be the same as then passed.

9. The spinning mills will mutually agree on a contract regulating the receiving of cotton in Bombay and its transport thence to Japan; negotiations with the steamship company will, however, remain in the hands of the committee for fostering exports.

10. In case spinning mills object to these regulations they will nevertheless be put in force should the number of mills agreeing be in the majority. If the execution be inadvisable because of a large number objecting, the final vote will remain in the hands of the committee.

A new table of the amounts of yarn to be apportioned each mill for export monthly was made up as follows:

Mills.	Bales.	Mills.	Bales.	Mills.	Bales.
Kanegafuchi.....	1,771½	Osaka Godo.....	175½	Kosho.....	50
Settsu.....	1,510	Sakai.....	140½	Handa.....	50
Fukushima.....	804½	Naigai Wata.....	117½	Shimomura.....	45½
Kurashiki.....	707	Harima.....	115	Nippon Seifu.....	38½
Kishiwada.....	684	Sanuki.....	107	Ozu Hosoiro.....	37
Kennshi.....	652	Wakayama.....	75½	Takaoka.....	13
Osaka.....	296½	Shikama.....	74	Watanabe.....	10½
Miye.....	258	Ehime.....	72½		
Tokyo.....	243	Matsuyama.....	50½	Total.....	8,099

CONFLICT OVER RULES ADOPTED IN 1909.

To these resolutions there was immediate objection by the four mills in the Kwanto section around Tokyo (the Fuji Gas, Tokyo, Nisshin, and Shimozuke), as they had little interest in the export

trade and their annual yarn production of some 40,000 bales found a market in the sections of northeast Japan and around Tokyo. Only some 10,000 bales for this part of the country were supplied from mills of the Kwansai section around Osaka, but the latter had the lion's share in the export trade. The Kwanto mills were also more interested in fine yarns.

An interesting discussion took place in the papers between Toyoji Wada, president of the Fuji Gas mill, and Sanji Muto, president of the Kanegafuchi, who was also chairman of the committee for fostering exports. Mr. Wada alleged that the geographical position of the Kwanto mills was not favorable for exports. He was also against giving the rebate on Indian cotton to promote exports, in which the mills of his section had little or no direct interest. He also saw no advantage to be derived from the artificial restriction of output, for though prices might be increased such increase would lessen the purchasing power of the people, especially of the lower classes, hence lessen the demand.

In reply Mr. Muto stated that, during the first half of 1909, the full monthly capacity of the mills was 65,000 bales of yarn and the monthly domestic demand 40,000 bales, leaving a surplus of 25,000 bales. Twenty per cent of the full monthly output was 13,000 bales and the average monthly export was 19,276 bales. Therefore a limitation of the production by 20 per cent would cut down the surplus only about half, or less than 70 per cent of the export. He argued that there was little geographical difference between the two sections as to export advantages. Taking the new Fuji Gas mill in Oyama as the Kwanto mill most unfavorably situated as regards Yokohama, and comparing it with the Kanegafuchi mill in Hyogo as the Kwansai mill most favorably situated as regards Kobe, the transport cost to Yokohama from Oyama was 25 sen a bale and from Hyogo to Kobe 13 sen, which made a difference of only 12 sen. The sea freight to Shanghai per bale of yarn was 90 sen from Yokohama and 80 sen from Kobe, a difference of only 10 sen. The total difference between mills in these two sections on the export of cotton yarn to Shanghai was, therefore, not over 22 sen (11 cents) per bale at the outside. In regard to limiting production, he stated that the English industry had always limited production in times of overproduction and that this had aided their growth; they had not developed, he maintained, with unrestricted competition. Short time had been worked during 1908 not only in England but in Belgium, Germany, India, and all other countries. Further, the resolutions submitted reduced the restriction of output from $27\frac{1}{2}$ per cent to 20 per cent.

The Nippon Yusen Kaisha was embarrassed by the fight between the Kwanto and the larger Kwansai group of mills, as the former threatened to withdraw from the association and to start shipments by some competing line; it therefore tried to bring the two factions together.

On October 12, 1909, an arrangement was agreed to by the two groups whereby article 9, which left the Indian cotton rebates in the hands of the committee for fostering exports, would be canceled. The restriction of output was to continue until April 30, 1910, and then be canceled. The encouragement of exports was to continue, but with some changes. The condition that spindles started up in accordance with the conditions stated could not be stopped until

after two months was changed to read after one month. Further, from November 1, 1909, any mill could change at its discretion from the production of medium counts to the production of coarse counts, and this change was no longer conditioned on two months' notice being given. However, these spindles had to stop 20 per cent, or export the yarn, or produce medium counts. The committee for fostering exports was increased by the addition of Mr. Wada of the Fuji Gas and Mr. Tamura of the Tokyo. The regulations for meeting the export-promotion expenses, which according to article 8 were apportioned according to the number of spindles available for the production of yarns No. 20 and lower, less those that were stopped, were changed so that from November 1, 1909, there were included also the spindles that had been restarted for the production of yarn for export or of medium count yarns.

The conflict between the Kwansai and Kwanto groups of mills was thus settled and all the mills agreed to the new limitation of production and promotion of exports to last for the period from November 1, 1909, to April 30, 1910.

LIMITATION OF PRODUCTION—PREMIUMS ON CLOTH EXPORTS.

There being still no prospect of a resumption of full time during the next year, the association decided, at a meeting held December 15, 1909, that when the export premium arrangements expired on April 30, 1910, they should be renewed for a period of one year. A bounty of 1.50 yen per bale was to be paid, after May 1, 1910, to those exporting yarns of No. 20 and under. Contributions for such expenses were to be levied in proportion to the number of spindles worked on coarse yarns, No. 20 and under, but yarns for weaving in the mill were excepted; provided that mills suspending for periods of over a month at a time should be released from contributing during the time of such suspension.

At a general meeting held on September 9, 1910, it was decided to curtail the production of fine as well as of coarse yarns, and to offer premiums on the exports of cloth and of fine yarns as well as of coarse yarns. The following regulations were made:

Resolution 1.—To curtail production of coarse yarns and to encourage the export of coarse-yarn cloth.

1. All coarse-yarn companies must curtail their production, at their option, by one of two methods: (a) Suspend $27\frac{1}{2}$ per cent of their total spindles, or (b) suspend all spindles four days and four nights per month, allowing two hours each day and night for meal time; or stop same two hours and in addition suspend operation of $12\frac{1}{2}$ per cent of their spindles: *Provided*, That a mill may stop working spindles instead of increasing the meal hours or increasing the holidays.

2. Rule No. 1 will be canceled for any mill that continuously exports over 50 per cent of its production every month for a period of six months.

3. A bounty, up to 1.25 yen per 300 kin, to be decided by the committee, shall be paid those mills exporting cloth made of yarns under 20s. Contributions to the expenses of this arrangement shall be borne by the companies in proportion to the number of coarse-yarn spindles used by them.

4. Enforcement of this decision and the regulation of details shall be left to the committee.

5. In case of any objection to the details made by the committee for fostering exports or disagreements as to its enforcement the chairman of the standing committee shall select a special committee from among the members and their decision shall be final.

6. This resolution shall be effective for a period of six months, commencing October 1, 1910.

Resolution 2.—To curtail the production of fine yarns of No. 21 and above, also of gassed yarns, and to encourage their export.

1. All fine and gassed yarn companies must curtail their production, at their option, by one of two methods: (a) Suspend 20 per cent of their total spindles, or (b) suspend all spindles five days and five nights per month allowing two hours each day and night for meal time; or stop an equivalent number of hours: *Provided*, that a mill may stop working spindles instead of increasing the meal hours and holidays.

2. A bounty of 2.50 yen per bale shall be paid to those mills exporting medium yarns, from No. 21 to No. 42, inclusive; and a bounty of 5 yen per bale to those mills exporting fine yarns, above No. 42, or gassed yarns.

3. Contributions to the expenses of the above shall be borne by the mills according to their medium-yarn spindles on No. 21 to No. 42, inclusive, and their fine-yarn spindles on counts over No. 42, and their gassed-yarn spindles, respectively, that are being used.

4. The enforcement of this rule and the details necessary for its operation shall be decided by the committee.

5. In case of objection to the details made by the committee for fostering exports, or disagreements as to its enforcement, the chairman of the standing committee shall select a special committee from among the members and their decision shall be final.

6. This resolution shall be effective for a period of six months, commencing October 1, 1910.

CANCELLATION OF PREMIUM SYSTEM.

These premium arrangements for promoting the exports of cloth made of coarse yarns, and the exports of medium, fine, and gassed yarns, also the previous arrangement for promoting the exports of coarse yarns, were renewed on their expiration in the spring of 1911, for a period of one year, as the mills at that time were still operating on short time. The arrangements were discontinued after March 31, 1912, and from that time until the end of 1913 they have not been in force. The mills did not finally start on complete full time until November, 1912, but the export trade had so increased by the end of March, 1912, that special methods of promoting exports were no longer needed. That this method had been successful and acceptable to the mills is proved by their having consented to bear the expenses necessary for so long a time, from January 1, 1909, to March 31, 1912. In the lottery year (1908) the exports of yarn were only 167,842 bales, but in 1909 they increased to 258,878 bales, in 1910 to 347,633 bales, in 1911 to 285,009 bales, and in 1912 to 374,933 bales. General conditions for the export trade were the worst in 1908, and there would have been an improvement since then, even without these special measures, but it seems indisputable that the revival of the export trade was greatly aided by giving premiums and that this method was successful.

SUMMARY.

To summarize, the first method employed by the Japanese to increase their export trade was simply that of giving lower prices abroad than at home. Then, in 1902, was tried the system of giving premiums, to be paid every six months, to the export merchants on the export of coarse yarns and cloth. This was broken off in two weeks because the Chinese merchants in Japan refused to handle any Japanese yarn unless the export premium was paid in cash when the yarn was shipped. In 1908 the mills decided to stimulate exports by a lottery system; tickets were given with each purchase of coarse yarn and lottery drawings were held three times, at intervals, the cash value of the prizes at each drawing being equivalent to \$50,000 Mexican. After running 10 months, March 1 to December 31, 1908, this was also given up as ineffective.

On January 1, 1909, there was started the system of promoting exports of coarse yarn by giving premiums to the exporting mills. In effect, all the mills contributed to lessen the cost to the exporting mills, the theory being that in a dull period any export of yarn, by relieving the oversupply at home, benefited all the mills, whether they exported or not, and in such case it was fair that mills not exporting should pay their proportion in aiding the mills that did export. This system was later extended to include the payment of premiums on all yarn exported of whatever kind and on the export of coarse cloth, and, further, smaller premiums were given to the export merchants as well as to the mills.

Since March 31, 1912, no special methods have been used to promote the export trade, as they have not been necessary, but it is very probable that a recurrence of dull times will see the mills renewing the system. No doubt, as in the past, this will prove an effective course. A study of the way in which Japanese mills have cooperated to promote their export trade is not only interesting but may not be without value in its suggestions to mills in other countries, especially when they are faced with a surplus on a dull home market.

DISTRIBUTION OF EXPORTS.

In a previous table there have been shown the exports of Japanese cotton yarn, by total weight and value, since 1890. In the following table are shown the actual and proportionate amounts taken by the principal countries to which these shipments were sent:

Years.	China.		Korea.		Hongkong.		All others.	
	Kin.	Per cent.	Kin.	Per cent.	Kin.	Per cent.	Kin.	Per cent.
1890.....	9,337	100.0	.....	.....	.....	.....	.....	.....
1891.....	6,435	19.9	25,952	80.1	.....	.....	.....	.....
1892.....	671	2.1	32,083	97.9	.....	.....	.....	.....
1893.....	265,117	83.9	26,962	8.5	23,914	7.6	.....	.....
1894.....	3,270,560	92.2	231,733	6.5	35,700	1.0	875	0.3
1895.....	2,419,760	68.4	1,081,942	30.5	30,502	.9	689	.2
1896.....	11,442,087	88.2	1,202,353	9.5	272,800	2.1	57,473	.4
1897.....	30,274,747	72.0	2,343,743	5.6	9,338,935	22.2	77,550	.2
1898.....	49,948,140	72.6	3,565,359	5.1	15,283,514	22.2	36,750	.1
1899.....	83,654,113	81.7	6,475,596	6.3	12,221,834	12.0	9,289	.....
1900.....	45,069,460	72.0	6,191,742	9.9	10,699,839	17.1	658,619	1.0
1901.....	51,852,767	82.6	3,736,028	6.0	6,505,810	10.4	657,190	1.0
1902.....	52,519,441	88.6	3,574,148	6.3	2,846,623	4.6	304,071	.5
1903.....	83,782,212	90.9	2,683,451	2.9	5,322,515	5.8	372,630	.4
1904.....	64,547,879	83.6	5,352,070	6.9	6,824,894	8.8	467,610	.7
1905.....	69,799,829	87.0	7,460,164	9.3	2,215,500	2.8	739,595	.9
1906.....	72,965,693	91.0	4,638,697	5.8	1,875,955	2.3	724,061	.9
1907.....	56,730,028	83.5	7,521,902	11.1	2,348,773	3.5	1,340,690	1.9
1908.....	40,280,058	80.0	6,542,133	13.0	1,953,280	3.8	1,577,594	3.2
1909.....	70,830,626	91.1	4,417,629	5.7	1,016,630	1.4	1,398,511	1.8
1910.....	90,460,469	89.4	2,824,862	2.8	5,385,814	5.3	2,496,622	2.5
1911.....	70,297,287	89.4	.....	.....	3,875,370	4.9	4,481,704	5.7
1912.....	91,259,824	86.0	.....	.....	8,727,227	8.2	6,182,407	5.8
1913 ^a	60,191,645	87.3	.....	.....	4,202,263	6.1	4,471,614	6.6

^a Six months.

Since 1910 Korea, under the name of Chosen, has been part of the Japanese Empire, and shipments thereto from Japan proper are not classed as exports. Statistics show that in 1911 there was shipped to Chosen from Japan proper 6,848,305 kin of cotton yarn and 6,310,295 kin in 1912, while the amount shipped thereto during the first half of 1913 was 2,046,104 kin. These amounts are included neither in the above table nor in the table on page 104.

The exports of cotton yarn from Japan to Kwantung Province, in southern Manchuria, now leased to Japan, were not listed separately from those to China until 1907, in which year they were 530,467 kin. They amounted to 710,333 kin in 1908, 936,805 in 1909, 1,220,983 in 1910, 3,000,073 in 1911, 4,777,722 in 1912, and 3,738,198 kin during the first half of 1913. These shipments are included in "All others" in the above table. These yarns are for consumption in Manchuria and the figures show that Japan is becoming a factor of increasing importance in the yarn trade of that section. The amount taken by the Philippine Islands in recent years has also increased.

EXPORTS IN 1911 AND 1912.

The exports of cotton yarn from Japan in 1911 and 1912 were, in American terms, as follows:

Countries.	1911			1912		
	Pounds.	Value.	Average value per pound.	Pounds.	Value.	Average value per pound.
			<i>Cents.</i>			<i>Cents.</i>
China.....	92,987,142	\$17,640,437	18.95	120,715,757	\$22,787,458	18.88
Hongkong.....	5,126,223	1,069,998	20.87	11,544,114	2,264,872	19.61
Kwantung Province.....	3,968,407	712,301	17.95	6,319,827	1,159,913	18.35
Philippine Islands.....	1,220,681	306,134	25.08	1,438,567	348,928	24.25
British India.....	717,695	291,371	40.60	392,294	163,125	41.58
All others.....	21,481	5,977	27.80	27,215	8,716	32.02
Total.....	104,041,629	20,026,218	19.25	140,437,774	26,733,012	19.03

Exports of cotton yarn from the mainland to Chosen, not included in the above table, were 9,058,732 pounds, valued at \$1,506,211, with an average value of 16.62 cents per pound, in 1911, and 8,347,069 pounds, valued at \$1,471,090, with an average value per pound of 17.62 cents, in 1912.

Coarse yarns are shipped to China, Kwantung Province, and Chosen, also to Hongkong, with somewhat finer yarns to the Philippines; the shipments to India are of fine yarns. The Japanese mills have been trying to obtain a footing for their finer yarns made of American and Egyptian cotton in India, where they come into competition with English rather than Indian yarns, but thus far the exports have been small, though favored by cheap freight the Japanese manufacturers have had some small success.

TRADE WITH CHINA.

In China the Japanese yarns go in largest quantities to Shanghai, Tientsin, Tsingtau, Dairen (Dalny), Chefoo, Newchwang, and Hankow. The main market for Japanese cotton yarns is Shanghai, and here they meet strong competition with Bombay yarns from India. The Japanese yarns are made with a mixture of American cotton, hence they are superior in quality and in whiteness to the Indian yarns, which are made with all-Indian cotton. Though this makes them higher in price it has stimulated the demand until the Japanese

yarns have increased to a point that seriously threatens the lead formerly held by Indian yarns. According to figures published by the Japan Cotton Spinners' Association, the imports of Japanese and Indian yarn into Shanghai have been as follows:

Years.	Japanese.	Indian.	Years.	Japanese.	Indian.
	<i>Bales.</i>	<i>Bales.</i>		<i>Bales.</i>	<i>Bales.</i>
1902.....	190,095	1,179,722	1908.....	202,279	730,671
1903.....	502,561	1,146,060	1909.....	425,497	1,023,598
1904.....	451,184	884,480	1910.....	566,557	860,557
1905.....	396,521	1,037,042	1911.....	422,516	536,580
1906.....	376,180	1,109,474	1912.....	452,150	620,524
1907.....	324,086	1,094,637	1913 ^a	303,070	310,904

^a Six months.

COMPETITION OF CHINESE MILLS—PROPOSED TARIFF CHANGES.

The first cost of a mill in India is less than in Japan and supplies are usually somewhat cheaper in the former country, but Indian yarn pays more freight because of the longer haul. Indian yarn is spun as well as the Japanese or better, but the color and quality are not so good. Japanese yarns have to bring a better price than the Indian to compete, but they do this on account of the material being higher in grade. Japan is getting a proportionately larger share of the yarn trade in China, but the total demand there is declining. This, while due partly to the recent disturbances, is in perhaps greater measure due to the competition of cotton yarn spun in Chinese mills. The Chinese have been able to sell yarn at least 10 yen per bale cheaper than the Japanese, but the material used has been the inferior Chinese cotton. However, the Chinese mills are now importing some Indian and a trifle of American cotton, besides improving their own cotton by importing American seed. They are beginning to make 20s, 20/2, 20/3, and also 32/2 and a small amount of 42/2, and are starting severer competition with Indian and Japanese yarns. The Chinese tariff, since October 31, 1902, has been 0.950 haikwan tael per picul (133½ pounds), but in addition yarn had to pay transit and likin taxes. The Chinese yarns, while subject to a revenue tax and having to pay the likin tax, escaped the customs duty and this gave them some advantage over foreign yarns. Now that it is proposed to raise the customs tariff the Japanese mills are much exercised over the effect this will have, in connection with the increased competition of the Chinese mills, on their exports to China.

In 1911 Japanese yarn exports to China decreased by reason of the Chinese rebellion and the famine in the Yangtze Valley, but in 1912 there was a more active trade, due to the satisfactory crops in the Yangtze Valley, the development of means of communication to the interior, and the increase in demand after the Chinese revolution. During 1913 the demand became still stronger. As cotton yarn is, after raw silk, the chief export from Japan, and as the principal market is found in China, the whole Japanese nation is interested in anything that will tend to retard this trade. Already mill men are urging the Government to oppose any increase of duties by the Chinese Government.

TOTAL CHINESE YARN IMPORTS.

According to a United States consular report from Shanghai, the total imports of cotton yarn into China in 1911 and 1912 were as follows:

Yarns.	1911		1912	
	Pounds.	Value.	Pounds.	Value.
Indian.....	141,101,733	\$18,851,228	172,743,733	\$25,570,515
Japanese.....	102,312,666	12,533,232	126,640,133	16,986,073
English.....	1,029,200	258,572	1,462,000	332,267
Hongkong.....	492,000	55,487	1,828,400	286,711
All others.....	3,081,200	629,316	3,789,600	758,033
Total.....	248,016,799	32,327,835	306,463,866	43,933,599

The cotton-yarn market of China is worth striving for. It is still the largest market in the world for cotton yarn, being followed by Germany, the Netherlands, and India, which, however, require mainly fine counts, while China requires coarse counts such as are produced by India and Japan. The United Kingdom is the greatest cotton-yarn exporter of the world, and is followed by India and Japan; all other countries have only a small export trade in this article.

As regards the Chinese competition, Mr. Y. Baba, in a paper published by the association on the proposed tariff increase in China, stated that the Chinese yarn production had increased from 300,000 bales in 1906 to 400,000 bales in 1912.

EXPORTS FROM VARIOUS MILLS.

The largest exports of cotton yarn from Japan were made during 1912. According to figures compiled by the Japan Cotton Spinners' Association, the exports were furnished by the various mills, as follows:

Mills.	Under 16s.	16s.	20s.	21s to 42s.	42s.	50s to 80s.	Above 80s.	Total.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Fukushima.....	37½	59,757½	14,776	-----	-----	-----	-----	74,571
Kanegafuchi.....	1,441	61,235	2,407	2,145	1,992½	-----	-----	69,220½
Settsu.....	11,626	39,559	8,558½	-----	-----	-----	-----	59,743½
Kishiwada.....	-----	-----	48,419½	-----	-----	-----	-----	48,419½
Osaka Godo.....	365½	16,063½	2,261½	9,126	2,980½	-----	-----	30,797
Kurashiki.....	595	16,034	1,216½	-----	-----	-----	-----	17,845½
Miye.....	2,339	10,967	1,661½	662½	217½	-----	-----	15,847½
Wakayama.....	919	795	9,787½	118½	5	-----	-----	11,625
Sakai.....	125	4,030½	3,311	25	-----	-----	-----	7,491½
Naigai Wata.....	-----	2,957	3,838½	-----	15	-----	-----	6,810½
Osaka.....	1,846½	988½	1,343½	46	646½	-----	-----	4,871
Nisshin.....	36	68½	2,016½	1,372	778	101½	57	4,429½
Fuji Gas.....	41	182	218½	2,119	1,571½	20½	107	4,259½
Ozu Hosoiito.....	5	30½	1,508	1,257	1,332	-----	-----	4,132½
Nippon.....	-----	-----	31	112½	650½	2,023	432½	3,249½
Tokyo.....	263	18	1,054½	885	704	158½	64	3,147
Handa.....	-----	1,888½	5	-----	-----	-----	-----	1,893½
Amagasaki.....	35	-----	9	148	457½	25	-----	674½
Shikama.....	-----	87½	548	-----	-----	-----	-----	635½
Sanuki.....	-----	-----	521	-----	-----	-----	-----	521
Meiji.....	-----	-----	386	123½	-----	-----	-----	509½
Takaoka.....	-----	-----	457	-----	-----	-----	-----	457
Ehime.....	-----	13	12½	355	-----	-----	-----	380½
Sanyo.....	-----	-----	55½	45	-----	-----	-----	100½
Nippon Seifu.....	-----	50	-----	-----	-----	-----	-----	50
Kosho.....	-----	-----	49	-----	-----	-----	-----	49
Matsuyama.....	-----	10	22½	-----	-----	-----	-----	32½
Not named.....	7	75	33½	219	84	28	35	481½
Total.....	19,681½	214,810	104,508½	18,714	11,434½	2,356½	695½	a 374,932

a Includes 2,686½ bales of unspecified yarns.

The yarn exports in 1912 were proportioned as follows: Under 16s, 5.25 per cent; 16s, 57.29 per cent; 20s, 27.88 per cent; 21s to 42s, 5 per cent; 42s, 3.05 per cent; 50s to 80s, 0.63 per cent; above 80s, 0.18 per cent; unspecified, 0.72 per cent. Thus, some 85 per cent of the total consisted of 16s and 20s, the first named being mostly weft and the latter mostly warp. Only about 1 per cent of the total were counts above 50s.

As previously noted the fine counts are sent mostly to India, with smaller amounts to the Philippines, Hongkong, the Straits Settlements, etc. China in general, and especially Manchuria, requires coarse counts. A considerable proportion of the counts from 21s to 42s consists of 32s ply yarns, mostly 2 and 3 ply. A considerable amount of the 42s seems to be taken by the Philippines.

The export yarn trade is mainly from the Fukushima, Kanegafuchi, Settsu, Kishiwada, Osaka Godo, Kurashiki, Miye, and Wakayama, these eight mills usually supplying about seven-eighths of the total.

MILL PRODUCTION AND EXPORTS.

There remains to be seen what proportion of the yarn produced was exported. In the following table, compiled from the records of the Japan Cotton Spinners' Association, are shown the number of spindles and looms in the various mills at the end of 1912, the total amount of yarn produced (whether for weaving or for sale) in bales of 400 pounds, and the number of bales exported by each mill:

Companies.	Spindles.	Looms.	Production.	Exports.
			<i>Bales.</i>	<i>Bales.</i>
Kanegafuchi.....	378,764	4,139	279,363½	69,220½
Miye.....	273,484	5,312	202,860	15,847½
Settsu.....	156,552	.....	154,000	59,743½
Osaka Godo.....	140,156	400	98,293	30,797
Osaka.....	134,340	4,610	91,987	4,871
Fuji Gas.....	192,528	951	82,366	4,259½
Fukushima.....	80,980	.....	77,418½	74,571
Kishiwada.....	96,840	.....	46,961	48,419½
Kurashiki.....	57,656	.....	42,349	17,845½
Wakayama.....	51,504	752	37,410	11,625
Amagasaki.....	89,776	1,231	34,484½	674½
Tokyo.....	101,672	884	33,448	3,147
Naigai Wata.....	28,608	933	23,641	6,810½
Nisshin.....	67,320	.....	20,019½	4,429½
Sakai.....	23,808	300	17,300½	7,491½
Nippon.....	120,412	.....	13,466½	3,249½
Meiji.....	17,664	.....	11,607	509½
Temma Orimono.....	14,080	776	11,190	.....
Ehime.....	16,084	.....	10,844½	380½
Nippon Seifu.....	19,332	310	10,477½	50
Ozu Hosoto.....	20,496	.....	8,662½	4,132½
Matsuyama.....	10,368	.....	7,330	32½
Tokyo Calico.....	24,580	600	6,292½	.....
Takaoka.....	10,920	.....	6,195	457
Sanuki.....	10,728	.....	6,005½	521
Handa.....	4,992	.....	3,969	1,893½
Shikama.....	8,312	.....	2,973½	635½
Ki-Yo.....	5,312	300	2,682	.....
Sanyo.....	6,912	.....	2,413	100½
Osaka Orimono.....	5,840	400	2,266½	.....
Kosho ^a.....	.....	.....	2,063½	49
Watanabe.....	2,720	.....	1,094	.....
Shimada.....	1,704	.....	406	.....
Kaizuka.....	2,304	.....	369½	.....
Unspecified.....	.....	.....	.....	3,168
Total.....	2,176,748	21,898	1,352,209½	374,932

^a Absorbed by larger company during second half of year; production stated is for first half of year.

According to the association, the yarn exports during 1912 amounted to 374,933 bales out of 1,352,209½ bales produced, or 27.65 per cent. Two spinning companies, the Fukushima and the Kishiwada, manufacture entirely for the export trade, while the others either depend more largely on domestic sales or use a large proportion on their own looms; part of the cloth thus made is exported.

PRICES AND MARKETING METHODS.

According to data published by the Japan Cotton Spinners' Association, the range of prices of some of the leading brands on the Shanghai market has been as follows, in taels per bale:

Mills.	Chops.	Count.	1912		1913	
			First half.	Second half.	First half.	Second half.
			<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>
Kanegafuchi.....	Blue Fish.....	16s	131 -135	112 -115½	112½-117	111¼-119
Do.....	Flower and Butterfly	16s	129½-131½	115 -116½	109½-114	109 -114
Settsu.....	Standing Horse.....	16s	129 -137	110 -116¼	112 -116¼	110½-117¾
Kurashiki.....	Three Horses.....	16s	118½-137	110 -118	111 -115¾	111 -116¾
Fukushima.....	Beauty in Boat.....	16s	117½-135¼	110 -118	109½-115½	112 -116¼
Osaka Godo.....	Two Deers.....	16s	120 -133¼	107¼-115	109¾-114	111 -116¼
Sakai.....	Yorokubu.....	16s	116 -132½	107½-118	108½-113	113¼-117¼
Kishiwada.....	Yebisu.....	20s	114½-135¼	107¼-116	110¾-114½	108 -114½
Wakayama.....	Sun and Birds.....	20s	116 -136	111¼-114¾	109 -113	111¾-118¼
Sanuki.....	.....	20s	104 -104	104 -104	105 -114	.....

In regard to the chops, Yebisu is the Japanese god of prosperity. Yorokubu means mutual enjoyment and is represented by a leave-taking in Japanese style. The Sanuki has no chop representation, but instead a trade-mark which looks like a Chinese character but which has no special meaning.

PACKING METHODS—FREIGHT RATES.

Cotton yarn exported from Japan is usually packed in burlap-covered bales containing 40 paper-covered bundles of 10 pounds each. This standard bale weighs 300 kin, or 400 pounds, but some yarn is shipped in small half-bales weighing 200 pounds. Some finer yarns are exported in cases, usually containing the regular 400 pounds.

In the illustration of a yarn-baling room in the Kanegafuchi mill are shown paper-covered bundles ready for bundling and the baling press. In the foreground is a 20-bundle bale covered with rice straw for the home trade. At the left are two burlap-covered bales, each containing 40 bundles and weighing 400 pounds, ready for export.

The Kobe office of the Nippon Yusen Kaisha stated that its ocean freight rates in December, 1913, were as follows:

Kobe to—	Large bale.	Small bale.	Per ton.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Chemulpo.....	0. 96	0. 44	.....
Dalny.....	1. 26	. 81	.....
Newchwang.....	1. 10	. 65	.....
Tientsin.....	2. 00	1. 10	.....
Shanghai.....	1. 00	. 55	.....
Hongkong.....	. 80	. 45	.....
Manila.....	a 4. 00	2. 00	.....
Singapore.....	.....	.....	4. 00
Colombo.....	.....	.....	6. 00
Bombay.....	.....	.....	8. 00
Calcutta.....	.....	.....	2. 00

a.If in cases, the charge is 6 yen.



YARN-BALING ROOM IN KANEGAFUCHI MILL.

The foregoing rates are subject to a rebate governed by the amount of business given the line, varying from 4 per cent for small firms up to 10 per cent for one or two of the largest.

The rate of 2 yen per ton to Calcutta has been in force up to December, 1913, and is due to the fight being made by the British Indian Steam Navigation Co. against the new line established from Japan to Calcutta in 1911 by the Nippon Yusen Kaisha. Each company has lowered its rates much below cost in order to freeze out the other.

EXCHANGE BETWEEN CHINA AND JAPAN.

China is on a silver basis, while Japan since 1897 has been on a gold basis. This has an important effect on the trade between the two countries. When the value of silver appreciates the exchange is said to be favorable and the trade is good, but when silver drops in value it creates an unfavorable exchange, as the Chinese have to pay more taels for the same value of Japanese goods, and, other things being equal, the trade is hampered by the purchasing power of the Chinese money being depreciated. In the following table is shown the number of taels that the Chinese have had to pay in Shanghai for 100 yen worth of Japanese goods during the last 15 years:

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>	<i>Taels.</i>
1899....	75.55	76.61	76.81	76.17	75.44	75.21	75.37	75.24	75.93	76.46	74.38	73.58	75.52
1900....	73.80	74.28	74.10	74.01	73.94	73.79	72.13	71.47	70.77	69.35	69.19	68.93	72.15
1901....	70.25	72.88	72.89	73.17	73.69	74.44	76.80	77.06	76.59	76.91	78.18	79.96	75.23
1902....	79.55	80.78	82.22	-----	-----	86.50	87.31	87.59	87.93	89.12	91.99	93.01	86.60
1903....	94.16	93.74	93.58	90.66	85.90	85.33	85.69	82.18	79.77	78.69	80.93	83.90	86.38
1904....	78.00	75.36	77.16	82.32	80.20	79.90	77.40	78.68	78.40	77.83	76.25	74.10	77.89
1905....	72.60	74.99	77.76	78.33	76.64	76.25	75.78	74.86	74.87	73.87	70.53	70.79	74.77
1906....	70.80	70.51	70.75	70.44	68.81	69.20	69.13	67.20	67.72	65.89	63.95	65.50	68.33
1907....	66.06	66.00	67.64	69.62	68.39	67.71	67.05	66.47	66.67	70.43	73.82	80.15	69.17
1908....	78.51	78.91	80.15	81.69	85.60	83.96	83.95	85.38	85.88	86.26	89.33	91.28	84.24
1909....	86.39	86.77	88.25	86.91	84.63	85.21	87.42	87.59	87.11	87.43	88.02	85.35	86.76
1910....	84.83	85.82	86.70	84.56	83.80	83.86	84.46	84.81	83.63	80.58	79.89	81.44	83.70
1911....	82.22	84.74	84.29	83.40	84.49	83.65	84.47	85.15	84.79	83.90	82.25	81.94	83.77
1912....	79.50	75.98	76.27	75.69	73.65	73.52	74.56	74.76	72.83	70.61	71.18	70.55	74.09
1913....	70.61	72.04	76.62	74.85	73.55	75.13	75.82	74.97	74.37	74.42	75.79	77.06	74.60

TRADE IN THREAD AND WASTE.

THREAD IMPORTS.

The imports of cotton sewing thread into Japan up to 1901 are shown in the following table; values only are available prior to 1885:

Years.	Quantity.	Value. ^a	Years.	Quantity.	Value. ^a
	<i>Kin.</i>	<i>Yen.</i>		<i>Kin.</i>	<i>Yen.</i>
1868.....			1885.....	11,477	9,730
1869.....		3,034	1886.....	9,781	7,755
1870.....		8,515	1887.....	32,233	29,867
1871.....		4,285	1888.....	44,665	50,106
1872.....		3,731	1889.....	67,900	71,381
1873.....		2,353	1890.....	68,219	59,660
1874.....		2,928	1891.....	99,362	83,793
1875.....		7,814	1892.....	151,680	120,751
1876.....		13,287	1893.....	146,958	116,127
1877.....		16,387	1894.....	123,607	111,204
1878.....		25,014	1895.....	371,635	328,942
1879.....		9,574	1896.....	197,820	172,682
1880.....		7,756	1897.....	275,637	256,237
1881.....		8,390	1898.....	438,749	358,771
1882.....		12,529	1899.....	305,644	354,608
1883.....		17,236	1900.....	231,239	333,032
1884.....		12,529	1901.....	212,510	344,524

^a For value of the yen prior to 1897, see p. 11.

TREND OF IMPORTS SINCE 1902.

In 1904 the customs classification was changed to specify whether the thread was on spools or in skeins, and this classification was carried back to the statistics for 1902. The imports of cotton sewing thread since 1902 have been as follows:

Years.	On wooden spools.		All other.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1902.....	204,002	342,678	15,929	17,038	219,931	359,716
1903.....	273,114	300,067	25,732	25,289	298,847	325,356
1904.....	432,576	420,889	54,475	55,786	487,051	476,675
1905.....	528,293	528,350	104,667	100,353	632,960	628,703
1906.....	334,213	293,987	20,570	21,592	354,783	315,579
1907.....	320,977	332,593	25,450	29,357	346,427	361,950
1908.....	319,467	382,008	37,497	41,904	356,964	423,912
1909.....	291,834	348,623	31,754	30,468	323,588	379,091
1910.....	281,948	352,655	50,300	64,714	332,248	417,369
1911.....	273,852	338,680	66,540	87,622	340,392	426,302
1912.....	231,905	283,998	57,036	83,062	288,941	367,060

SOURCES OF SUPPLY.

The imports of cotton thread into Japan have been the almost exclusive monopoly of the United Kingdom, as shown by the following table:

Years.	United Kingdom.		Germany.		All others.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1890.....	66,945	58,807	1,228	814	46	39	68,219	59,660
1895.....	369,385	326,034	2,250	2,908	-----	-----	371,635	328,942
1900.....	230,083	330,232	114	209	1,038	2,589	231,239	333,032
1905.....	630,284	625,043	1,168	1,004	1,508	2,686	632,960	628,703
1910.....	313,783	392,262	18,407	25,053	50	54	332,248	417,369
1911.....	321,119	397,598	19,081	28,218	192	2,103	340,392	426,302
1912.....	273,685	343,830	14,174	21,133	1,082	2,103	288,941	367,060

The record importation of thread was in 1905, at the time of the war with Russia, but imports have since shown a tendency to decline and in 1912 amounted to only 367,060 yen, or \$182,796.

THREAD EXPORTS.

Japan still imports considerable thread from the United Kingdom, but most of this is now of the finer counts, as Japan has now a thread industry of its own. Most of the thread is produced by the Teikoku Sheishi Kaisha (Imperial Thread Manufacturing Co.), located near Osaka, which supplies the demand for coarse and medium counts. In addition there is a small export. The exports of cotton thread of Japanese manufacture were not recorded by the customs until 1906, when they amounted to 277,526 kin, valued at 199,153 yen. The exports in 1907 were 179,755 kin, valued at 123,106 yen. The exports by countries since 1907 have been as follows:

Years.	China.		Korea. ^a		Asiatic Russia.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1908.....	93,942	68,301	30,472	19,480	4,132	2,768
1909.....	105,911	79,762	32,638	20,380	10,114	5,965
1910.....	91,747	71,944	13,150	7,355	781	513
1911.....	54,391	46,806	27,599	16,659	15,285	10,849
1912.....	90,677	72,466	32,639	24,734	19,922	14,098

Years.	Kwantung.		All others.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1908.....	14,031	8,071	959	669	143,536	99,289
1909.....	7,320	4,850	7,199	4,831	163,182	115,788
1910.....	19,485	14,387	9,894	7,483	135,055	101,680
1911.....	12,335	8,797	19,315	17,259	97,326	79,711
1912.....	19,524	14,393	30,780	25,597	160,903	126,554

^a Not included in total exports after 1910.

The total imports of foreign thread into Japan in 1912 amounted to 382,193 pounds, valued at \$182,796, giving an average value per pound of 47.83 cents; the total exports of Japanese thread amounted to 212,837 pounds, valued at \$63,024, giving an average value per pound of 29.6 cents. This shows that the imports are mainly fine thread and the exports chiefly coarse thread.

EXPORTS OF COTTON WADDING.

The first year in which the Japanese customs show exports of cotton wadding was 1902, though it is probable that some was exported prior thereto and classed as reexported cotton. So far as recorded the exports of cotton wadding have been as follows:

Years.	Korea. ^a		Asiatic Russia.		Kwantung Province. ^b	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1902.....	552,500	225,307	97,267	28,153	.....	.....
1903.....	479,842	189,306	116,003	35,112	.....	.....
1904.....	879,569	334,121	1,750	525	.....	.....
1905.....	1,293,855	521,731	296,603	93,463	.....	.....
1906.....	959,815	355,921	267,037	87,015	.....	.....
1907.....	1,205,077	428,254	422,881	143,317	138,407	42,234
1908.....	1,456,434	486,180	440,154	139,993	153,486	46,896
1909.....	1,322,257	418,179	160,402	47,369	152,600	46,180
1910.....	387,177	128,097	266,230	88,371	181,966	57,255
1911.....	2,015,967	633,937	317,051	113,869	291,590	95,558
1912.....	2,742,176	962,360	296,133	105,371	269,501	89,322

Years.	China.		All others.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1902.....	95,935	27,631	10,948	1,726	756,650	282,817
1903.....	32,841	10,368	3,301	811	631,987	235,597
1904.....	20,022	5,705	4,477	1,312	905,818	341,663
1905.....	39,379	13,225	6,151	1,815	1,635,988	630,234
1906.....	96,616	33,938	9,121	2,371	1,332,589	479,245
1907.....	48,777	15,416	13,741	3,624	1,828,883	632,845
1908.....	237,411	76,822	14,903	3,669	2,302,388	753,560
1909.....	273,088	77,018	25,651	6,720	1,933,998	595,466
1910.....	128,723	33,047	36,632	9,700	1,000,728	316,470
1911.....	200,716	44,934	34,534	9,775	843,891	264,136
1912.....	192,721	47,586	35,746	10,465	794,101	252,744

^a Not included in total exports after 1910.

^b Included in China prior to 1907.

Among the "all others" in 1912, the main country was Hawaii, which took 19,427 kin, valued at 5,251 yen, of cotton wadding. The total exports, exclusive of Korea, amounted in 1912 to 252,744 yen, or \$125,867.

TRADE IN COTTON WASTE.

So far as recorded by the customs the imports and exports of soft and hard waste have been as follows:

Years.	Imports.				Exports.	
	Old cotton and waste cotton.		Waste cotton yarn.		Waste cotton and waste cotton yarns.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>
1883.....	31,500	726	24,356	2,430	.....	.....
1884.....	101,475	2,165	15,039	1,404	.....	.....
1885.....	840	92	34,301	3,182	.....	.....
1886.....	.....	.....	3,656	385	.....	.....
1887.....	82,080	1,519	18,840	1,550	.....	.....
1888.....	181,780	3,651	.....	.....	.....	.....
1889.....	651,782	13,910	8,301	809	.....	.....
1890.....	503,314	12,332	1,400	130	.....	.....
1891.....	417,225	9,237	1,680	168	.....	.....
1892.....	692,535	14,605	375	66	.....	.....
1893.....	1,160,548	23,788	94,772	12,006	.....	.....
1894.....	970,394	22,038	4,302	297	.....	.....
1895.....	1,906,530	43,942	154,890	23,842	.....	.....
1896.....	3,191,714	99,076	18,210	1,182	291,655	20,008
1897.....	4,880,918	225,856	63,992	8,591	219,146	16,906
1898.....	2,257,376	120,282	.....	.....	550,740	54,807
1899.....	2,146,102	96,715	.....	.....	406,567	43,652
1900.....	1,796,596	108,610	271,570	34,987	716,349	82,655
1901.....	1,518,383	165,717	187,418	19,053	440,361	51,723
1902.....	715,132	61,691	67,202	8,061	660,924	86,016
1903.....	97,125	8,138	423	78	831,552	95,908
1904.....	294,957	18,789	.....	.....	329,590	46,852
1905.....	27,626	1,560	.....	.....	517,927	73,336
1906.....	57,798	5,691	.....	.....	4,494,410	536,792
1907.....	.....	.....	.....	.....	2,220,698	281,711
1908.....	.....	.....	.....	.....	1,273,560	170,625
1909.....	.....	.....	.....	.....	3,464,063	333,848
1910.....	.....	.....	.....	.....	5,476,341	645,789
1911.....	.....	.....	.....	.....	3,976,155	507,073
1912.....	.....	.....	.....	.....	4,555,550	527,006

Japan is no longer a market for cotton waste, but exports a portion of that made in its mills. As shown on page 76, the Government records the waste production of the spinning mills in 1911 (the latest available statistics) as 8,084,915 kwan, or 66,837,992 pounds, of soft waste and 507,308 kwan, or 4,193,915 pounds, of hard waste—a total of 71,031,907 pounds. The exports in 1911 were 3,976,155 kin, or 5,259,538 pounds, which were not specified as to kind. There are only a few small cotton-waste plants in Japan and these are located mainly around Nagoya, where their output is largely used as weft in the manufacture of cotton blankets, but a large portion of the soft waste is reworked into the coarser yarns in the mills, and part of the hard waste is used for machine wiping, etc.

DISTRIBUTION OF EXPORTS.

The exports of “waste cotton and waste cotton yarns,” or, in other words, soft and hard cotton waste, from Japan in 1912 were valued at 527,006 yen, or \$262,449, and were distributed as follows:

Countries.	Quantity.	Value.	Countries.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>		<i>Kin.</i>	<i>Yen.</i>
United States.....	1,032,625	98,729	China.....	231,829	29,240
Belgium.....	892,150	99,576	France.....	165,904	13,159
Hongkong.....	509,824	76,479	Philippines.....	139,107	21,718
Germany.....	483,822	30,802	Dutch India.....	65,300	8,554
United Kingdom.....	388,339	59,415	All others.....	58,422	7,135
Australia.....	318,311	51,158			
Kwantung Province.....	269,917	31,041	Total.....	4,555,550	527,006

PRODUCTION AND EXPORTATION OF CLOTH.

GENERAL CONDITIONS.

The Japanese Government takes a census of production every year and the Department of Finance reports as follows concerning the total number of looms and textile operatives in Japan and the total value of all goods woven:

Years.	Looms.			Operatives.			Total value of goods woven.
	Power.	Hand.	Total.	Males.	Females.	Total.	
							<i>Yen.</i>
1902.....	17,898	692,497	710,395	42,751	730,213	772,964	151,187,473
1903.....	24,836	599,259	624,095	27,048	611,310	638,358	138,286,873
1904.....	15,636	605,209	620,845	23,671	598,052	621,723	130,196,421
1905.....	19,040	715,769	734,809	36,429	733,062	769,491	153,233,992
1906.....	20,657	716,171	736,828	40,886	751,605	792,491	210,355,661
1907.....	29,156	754,449	783,605	32,273	726,232	758,505	228,240,373
1908.....	37,630	745,525	783,155	32,427	725,852	758,279	230,135,568
1909.....	51,185	719,751	770,936	33,219	752,919	786,138	233,305,457
1910.....	68,593	683,696	752,289	35,268	726,041	761,309	268,733,547
1911.....	89,003	638,412	727,415	41,531	707,350	748,881	293,424,985

PRODUCTION OF VARIOUS WOVEN GOODS.

The value, as shown above, of the woven goods produced in Japan was divided as follows:

Years.	Piece goods.				Obiji (Japanese sashes).	All others.
	Cotton.	Silk.	Silk and cotton mixed.	Hemp.		
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
1902.....	55,371,104	63,064,215	11,384,076	3,002,733	13,857,212	4,508,133
1903.....	50,652,138	60,833,788	9,244,481	2,295,145	10,375,543	4,885,778
1904.....	51,277,017	54,563,855	7,575,927	2,587,585	6,528,164	7,663,873
1905.....	70,956,964	57,366,550	12,923,464	3,528,269	6,021,335	2,437,410
1906.....	85,839,085	88,994,878	17,820,048	3,390,311	7,680,457	6,630,882
1907.....	102,975,020	90,701,894	20,329,200	4,094,548	8,249,408	1,890,303
1908.....	100,654,814	94,799,152	21,632,156	3,547,890	8,345,914	1,155,642
1909.....	100,071,087	97,780,308	23,229,270	3,834,376	5,987,909	2,402,507
1910.....	121,539,690	108,610,043	24,829,652	3,642,020	8,789,061	1,323,081
1911.....	139,745,299	107,413,465	30,025,115	3,998,960	8,578,493	3,663,653

In 1902 the value of the silk goods exceeded that of the cotton goods, but since 1905 cotton goods have held the leading place. This is due mainly to the greater development of power-loom weaving in cotton mills since the Russian War. The total output of woven goods in Japan in 1911 was valued by the Government at 293,424,985 yen, or \$146,125,643; and of this total, piece goods amounted to 281,182,839 yen, or \$140,029,054. Of the obiji (Japanese sashes) made in 1911, 4,256,954 yen worth were silk, 4,043,124 yen silk and cotton mixed, and 278,415 yen (\$138,651) cotton. The output of cotton piece goods was valued at 139,745,299 yen, or \$69, 593,159. In 1911, therefore, the value of the cotton piece goods and cotton

obiji amounted to 47.72 per cent of the total production of woven goods of all materials and kinds, while the value of the cotton piece goods amounted to 49.61 per cent of the total production of piece goods of all materials.

TAXES COLLECTED ON TEXTILES.

One reason that the Japanese Government makes this record of the output of woven goods by value is to levy the textiles consumption tax, which was established in 1905. This tax is levied at the rate of 10 per cent of the value upon persons taking delivery, at the time of such delivery, of textiles from manufactories and from customhouse compounds, bonded warehouses, customs temporary depots, and other places where the storage of foreign goods is permitted by law. The amount that the Government has received from this tax is recorded as follows: 1905, 4,423,766 yen; 1906, 5,319,899 yen; 1907, 5,037,515 yen; 1908, 19,114,902 yen; 1909, 19,316,736 yen; 1910, 18,778,324 yen; 1911, 18,233,622 yen; 1912, 18,916,151 yen. This was one of the extraordinary taxes levied after the Russian War to meet the expenses of the Government. It is finally paid by the consumer, but it is felt so much by the trade in general that in 1913 strong representations were made to the Government for its repeal, but with the present condition of national finances it is not probable that it will be repealed for some time.

PRODUCTION OF DIFFERENT COTTON FABRICS.

The cotton fabrics woven in Japan during 1911 are given in detail by the Government as follows:

Class.	Rolls.	Pieces.	Yards.	Total value.
				<i>Yen.</i>
Bleached cotton goods.....	284,415	64,419,546	12,405,835	40,588,325
Futako and other striped goods.....		23,393,353		22,358,829
Cotton flannel.....	129,112	2,975,066		15,954,214
Kasuri.....		7,872,024		11,344,825
Dyed cotton goods.....		9,921,642		10,124,016
Cotton crape.....		3,526,673		4,784,958
Toweling.....		^a 2,715,117		2,578,554
Mosquito nets.....		1,389,559		593,481
Hakama-ji.....		333,657		569,071
Other piece goods.....				30,849,026
Total.....				139,745,299
Obiji.....		432,949		278,415
Grand total.....				140,023,714

^a Dozens.

Most of the goods produced are given in Japanese characters as "shiro momen," which is literally "white cloth," so the Japanese in their publications translated this as "bleached cotton goods." As will be shown in connection with nankeen, however, this term white was formerly used in Japan to designate cloth that was not colored, dyed, or printed, hence the correct translation in this case would be unbleached and bleached cotton goods.

Futako refers to striped goods, made with ply-yarn warps, such as are used in making the narrow-striped kimonoas that are still worn by a majority of the Japanese instead of European clothing. Kasuri

cloth shows large irregular block patterns, usually white on a blue ground and is used in making clothes for school children. Hakama-ji is a rather stiff colored cloth that is used in making the Japanese skirts worn by the young men at the higher schools and colleges.

LARGE OUTPUT FROM HAND LOOMS.

The amount of cloth woven on hand looms is not shown by the Government; neither does it show separately the number of power looms and hand looms used for cotton only. At best the latter data can be only approximate, owing to the large amount of mixed goods woven and to the number of looms continually being changed from one material to another.

At the end of 1911 the Japan Cotton Spinners' Association reported 20,431 power looms in the cotton mills. During the last six months of 1911 there was an average of 18,284 looms in operation producing an average of 50.34 yards per day, the day averaging for all the weaving mills (one or two of which ran at night) 14.28 hours. The yarn consumption by these looms amounted to 82,482,236 pounds. During 1911 they reported an output equivalent to 1,129,267 bales of 400 pounds each of yarn, an import of 1,843 bales of yarn, and an export of 285,009 bales. No cotton yarn is spun in Japan outside the cotton mills (except a trifle in a cottage here and there), hence the total yarn available for use in Japan in 1911 amounted to 846,101 bales, or, say, 338,440,400 pounds, of which the power looms absorbed only 82,432,236 pounds, or about a fourth. Part of the remainder was used in the knit-goods trade and in other ways, but the great bulk was used for weaving on the hand looms, which shows that the hand-loom must still be larger than the power-loom industry. From the fact that silk goods are necessarily more valuable than cotton and that cotton goods amount to about half of the total value of all goods woven in Japan, there must be over half the hand looms on cotton, or at least 350,000 out of the total in 1911 of 638,412. The power looms, of which at the end of 1911 there were only 20,431, work with a small amount of stoppage, while most of the hand looms are tended by housewives who have other duties.

The production from the power looms is some 50 yards of cloth a day, while the hand looms probably do not average over 4 yards (a full day's production on the hand loom runs from 4 to 15 yards, according to the material, the weave, etc.). The hand looms work on narrow cloth, mostly about 1 shaku (14.913 inches) wide, while the power looms are mainly on cloth about 36 inches wide. There are, however, so many more hand looms than power looms that the total production from the former considerably exceeds that from the power looms, and the hand-loom product not only dominates the home market but a fair amount is exported.

One reason that the hand loom survives is the fact that the money made by most of the hand-loom weavers is an addition to the regular family income, and so the home weavers are content to work for very little, not much over a fourth of the small wages received by the power-loom weaver; but if a farmer's wife makes only 10 to 12 sen a day (say, 5 to 6 cents) it is a welcome addition to the family earnings. It takes a weaver to every hand loom, but even in the factories a weaver rarely runs over two power looms. There is some tendency for the

number of hand looms to decrease (there were only 638,412 in 1911 on all kinds of textiles as against 754,449 in 1907), but until the power-loom weaver becomes efficient enough to operate more looms, and until more looms are installed in the factories, there will continue to be a large hand-loom industry.

PROPORTION OF LOOMS TO SPINDLES.

In Japan power spinning has been developed more rapidly than power weaving, and there are to-day not one-fifth as many looms as are needed to balance the spinning. On June 30, 1913, the Japan Cotton Spinners' Association showed a total of 23,783 power looms, of which an average of 22,975 were working during the first half of 1913. In this half year they produced 204,655,996 yards of cloth and used 54,338,034 pounds of cotton yarn. Of 2,287,264 spindles on June 30, 1913, an average of 2,118,402 were in operation during the first half of 1913, and these produced 36,535,081 kwan (302,035,516 pounds) of yarn. The power looms therefore used only about 18 per cent of the output of the spinning frames.

These figures are for a half year and they show that the output per spindle may now be taken as some 285 pounds a year, the spindles working night and day, while the looms, even if none ran at night, would require some 4,500 pounds of yarn each per year. Even allowing yarn enough for the knitting and other such industries, it would require to-day about a loom to every 20 spindles to balance the production.

The total number of spindles and looms in the cotton mills of Japan and the number of spindles per loom on December 31 of each year have been as follows, according to the association figures:

Years.	Spindles.	Looms.	Spindles per loom.	Years.	Spindles.	Looms.	Spindles per loom.
1888.....	116,276	200	581	1901.....	1,295,598	3,289	394
1889.....	215,190	200	1,076	1902.....	1,352,948	4,887	277
1890.....	277,895	400	695	1903.....	1,381,306	5,083	206
1891.....	353,980	420	843	1904.....	1,345,585	5,085	265
1892.....	385,314	420	917	1905.....	1,426,594	8,140	175
1893.....	381,781	420	909	1906.....	1,472,353	9,601	153
1894.....	530,174	420	1,262	1907.....	1,540,452	9,462	163
1895.....	580,945	583	996	1908.....	1,695,879	11,146	152
1896.....	757,196	1,789	423	1909.....	1,954,892	13,813	142
1897.....	793,022	2,105	377	1910.....	2,099,764	17,702	113
1898.....	926,991	2,511	369	1911.....	2,170,796	20,431	106
1899.....	1,086,721	2,869	379	1912.....	2,176,748	21,896	99
1900.....	1,267,872	3,010	409	1913 ^a	2,287,264	23,783	96

^a June 30.

Though there are needed only 20 spindles to a loom to balance the production, at times there have been over 1,000 spindles to the loom. Since the Russian War, with the new outlet for cloth in Manchuria, weaving has increased more rapidly, and in 1913 there were only 96 spindles to the loom. It seems certain that in the future there will be a large proportionate development of the weaving side of the industry, and while this may cut down the yarn exports it will probably result in the exports of cloth surpassing those of yarn, and this change is bound to make itself felt, on the markets of the East at least, to a much greater extent than it is to-day.

HISTORY OF THE WEAVING INDUSTRY.

Power-loom weaving in Japan is comparatively a new industry. Cotton spinning by machinery was started in 1866, but cotton weaving by machinery did not begin until 1888, when 200 looms were installed, and even at the outbreak of the Chinese War in 1894 there were only 420 power looms.

The first company to use power looms was the Onagigawa, which was organized by some capitalists of Tokyo in 1887 and which commenced work with 200 looms at Ozi, near Tokyo, in 1888. The Osaka Weaving Co. placed 200 looms in operation in 1890, but after a few months, in October, 1890, the company was taken over by the Osaka Spinning Co. (Ltd.). Except for the addition of 20 looms, no more looms were started until the Chinese War, when a market was found for exports in Korea; shortly afterwards the Calico Manufacturing Co. was instituted in Osaka, while spinning companies in Miye and Okayama prefectures also imported looms. The home market was then, as now, supplied largely by the product of the hand looms, and the development of power looms has been dependent chiefly on markets abroad.

EXPORTS OF HAND-LOOM PRODUCTS.

For many years before the introduction of the power loom there had been a small export trade. The exports of cotton cloth from 1868 to 1890 are officially recorded as follows:

Years.	Value. ^a	Years.	Value. ^a	Years.	Value. ^a
	<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
1868.....	6,450	1876.....	10,629	1884.....	104,943
1869.....	5,362	1877.....	18,240	1885.....	177,999
1870.....	3,786	1878.....	18,819	1886.....	231,499
1871.....	1,859	1879.....	27,349	1887.....	170,640
1872.....	1,659	1880.....	33,044	1888.....	153,594
1873.....	8,796	1881.....	42,182	1889.....	147,035
1874.....	6,542	1882.....	38,148	1890.....	173,843
1875.....	9,903	1883.....	62,205		

^a For value of the yen see p. 11.

FIRST EXPORTS OF POWER-LOOM FABRICS.

The year 1890, which marked the beginning of an export trade in cotton yarn, is also thought to have been the first year in which any power-loom cloth was exported, although then, and for several years afterward, the great bulk of the exports were hand-woven goods. Until 1892 the export statistics listed only monpa, or cotton flannel, separately from other piece goods. The exports at that time were as follows:

Articles.	1885		1890		1891	
	Pieces.	Yen.	Pieces.	Yen.	Pieces.	Yen.
Monpas (cotton flannels).....	392	1,185	1,478	3,175	14,136	22,584
Other piece goods.....	471,960	176,814	357,270	170,668	494,227	220,774
Total.....	472,352	177,999	358,748	173,843	508,363	243,358

EXPORTS FROM 1892 TO 1895.

In 1892 the classification was changed to show chijimi, or cotton crape, and tenuguiji, or Japanese toweling, as well as the monpa, separately from the "All others." The value of the exports was then shown as follows:

Years.	Flannel.	Crape.	Towel- ing.	All others.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
1892.....	106,100	275,983	16,290	145,649	544,022
1893.....	281,151	586,970	12,485	228,937	1,109,543
1895.....	221,918	1,067,573	58,223	513,489	1,861,202
1896.....	400,520	585,909	53,780	1,275,731	2,315,940

Until 1895 the small exports of piece goods had found their main market in Hongkong, being favored by the steamship connections thereto. However, as they were almost entirely hand-woven goods of a coarse quality similar to those made by the Chinese, and as the Chinese merchants who controlled the trade from Japan to China and Korea required large profits, the amounts taken by the latter countries were very small. During the Chinese War the Japanese took advantage of the situation to get into direct touch with the consumers in Korea, and by eliminating much of the intermediate expense were able to land goods at a price that insured a good trade. The few looms in the Japanese mills were also making somewhat better cloth than at first. By 1895 Korea had become the main market instead of Hongkong.

DISTRIBUTION OF EXPORTS IN 1895.

The exports to the various countries in 1895 were as follows:

Articles.	Korea.	Hong- kong.	China.	United States.	British India.	Hawaii.	All others.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Flannel.....	7,511	222,586	140,276	280	12,980	1,800	15,087	400,520
Crape.....	2,256	181,973	88,148	151,664	96,049	31,498	34,321	585,909
Toweling.....	476	49,100	1,479	57	2,472	104	92	53,780
All others.....	956,321	53,318	175,063	35,493	7,313	7,261	40,962	1,275,731
Total.....	966,564	506,977	404,966	187,494	118,814	40,663	90,462	2,315,940

Until 1895 the principal exports had been cotton crape and cotton flannel made on hand looms, but there was little demand for these in Korea, and with the opening of that market the chief export became the narrow plain-woven cloth which was largely made on the hand looms in Japan as well as in China, and which was bought and dyed for ordinary clothing uses.

INCREASE IN VARIETY OF GOODS.

The Japanese exports of this and other cloths had become so much larger by 1898 that a new official classification was made for the export statistics. This narrow cloth was called white cloth, which does not necessarily imply bleached (though most of it was half bleached with the use of ashes and then grassing, in the Japanese style), and the term "white" was used rather to distinguish it from dyed or colored goods. The cloth was plain woven of coarse yarns

and quite similar to the “nankeen” used in China. When the mills found they could market their products in Korea, at the time of the Chinese War, several new mills were projected and the number of looms increased from 420 in 1894 to 583 in 1895 and 1,789 looms in 1896. In 1897 there was a further increase to 2,105, in 1898 to 2,511, in 1899 to 2,869, in 1900 to 3,010, and in 1901 to 3,289. As the looms increased they not only made the narrow white cloth, or nankeen, that was being produced on hand looms, but began also to imitate the wider grey sheeting that they found the Americans were selling largely to China and Korea. They likewise imitated the T cloths sold in China and Korea by England and British India. They tried, to a smaller extent, to compete with the English on turkey reds and, as the production of gassed, or lisle, yarns gradually increased in Japan, they also started a small export of lighter goods made from such yarns.

CLASSES OF GOODS EXPORTED IN 1900.

The exports of cotton piece goods from Japan in 1900, according to the classification in force from 1898 to 1902, inclusive, were as follows:

Articles.	Quantity.	Value.	Articles.	Quantity.	Value.
		<i>Yen.</i>			<i>Yen.</i>
White cloth (nankeen), pieces.....	3,072,033	1,778,532	Turkey reds.....yards...	675,416	54,663
Grey sheeting and shirting, yards.....	15,934,020	1,770,411	All other tissues...pieces...	392,933	377,822
Flannel.....pieces...	369,659	602,041	Towels.....dozens...	430,980	356,322
T cloth.....yards...	5,752,266	477,914	Blankets.....kin.....	457,700	235,241
Crape.....pieces...	381,143	370,782	Handkerchiefs.....dozens..	35,983	19,274
Gassed-yarn tissues...do....	196,774	190,161			
Japanese toweling....do....	338,726	101,351	Total.....		6,334,514

The principal exports in 1900 were, therefore, the narrow white cloth similar to nankeen, grey sheeting (there was very little made with the finer yarns that would entitle it to be called shirting), cotton flannel (not canton flannel, really flannelette), T cloth, and cotton crape (most of this either striped goods or else hand-printed). The Japanese toweling (tenuguiji) is narrow and much of it is used in Japan for advertising, some being given away by firms with their names stamped on it. Most of that exported is indigo printed in various designs. The Turkey reds were mostly dyed shirtings and some cambrics. The 1900 exports were taken by the following countries:

Articles.	Korea.	China.	Hong-kong.	Asiatic Russia.	British India.	Hawaii.	All others.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Nankeen.....	1,690,100	39,241	45,213	802	2,296	101	779	1,778,532
Sheeting.....	1,445,133	226,354	73,320	127	9,477	.....	16,000	1,770,411
Flannel.....	14,638	91,555	402,562	86,077	2,699	1,167	3,343	602,041
T cloth.....	269,943	158,771	48,640	.....	.....	.....	560	477,914
Crape.....	3,971	61,308	214,178	14,301	21,241	22,045	33,738	370,782
Gassed-yarn tis- sues.....	1,221	179,741	1,260	5,768	155	1,316	700	190,161
Toweling.....	3,198	7,469	83,200	475	6,500	279	230	101,351
Turkey reds.....	29,406	249	6,179	18,828	.....	.....	1	54,663
All other tissues...	158,298	55,609	60,592	23,853	12,673	59,732	7,065	377,822
Towels.....	26,092	146,694	80,378	34,034	64,363	1,848	2,913	356,322
Blankets.....	28,875	75,621	4,683	120,800	4,513	.....	749	235,241
Handkerchiefs....	691	6,748	676	4,373	815	336	5,635	19,274
Total.....	3,671,566	1,049,360	1,020,881	309,438	124,732	86,824	71,713	6,334,514

RAPID INCREASE IN NUMBER OF LOOMS.

In 1900, following the Boxer troubles in China, there was a business depression in Japan that lasted for two or three years. The exports of yarn dropped from 341,162 bales in 1899 to 208,333 bales in 1900, 209,167 bales in 1901, and 197,481 bales in 1902. The exports of piece goods were not so much affected, and their sales abroad increased from 4,504,111 yen in 1899 to 6,334,514 yen in 1900, and, with only a slight drop to 6,254,713 yen in 1901, increased to 6,938,539 yen in 1902. Many of the coarse-yarn mills found it difficult to make both ends meet on a dull home market and a declining foreign trade, and when they saw that weaving mills could sell cloth where they could not sell yarn and were making better profits, they began to consider the installation of looms. In 1901 there were 279 new looms added and 1,508 in 1902, bringing the total up to 4,887 by the end of 1902. This resulted in an increase in the cloth exports from 6,938,539 yen in 1902 to 8,270,550 yen in 1903. Most of the new looms were started on grey sheeting and T cloth and mills also began to imitate the American three-harness drill. From 1897 to 1901, inclusive, the cloth most largely exported from Japan was the narrow goods which were listed in the statistics as white cloth, but which were very similar to the Chinese nankeen; the first exports were hand-loom cloth and these were imitated by the power looms. In 1902, however, grey sheeting became the main article of export and has remained so. At that time the mills thought to establish a big trade in T cloths and the exports increased from 5,752,266 yards in 1900 to 9,978,597 yards in 1901, 12,857,756 yards in 1902, and 13,151,558 yards in 1903. This, however, was the high-water mark of the T cloth exports. The Japanese could not make them so well as the English and when the Chinese found that the Japanese T cloths were not so good, the demand declined, and even with a slight resumption of this trade in 1912 the exports then amounted to only 7,584,517 yards. In drills the Japanese have had more success. Starting with only 256,934 yards in 1902 the exports increased steadily to 31,755,794 yards in 1911, and drills are now, next to grey sheeting, the chief piece-goods export. Exports of twilled shirtings also started in 1902, with 200,000 yards, and they increased by 1911 to 8,534,035 yards.

STATUS OF WEAVING INDUSTRY IN 1903.

In 1903 there were only nine cotton mills that contained looms. The Japan Cotton Spinners' Association shows the status of the weaving mills during the first half of 1903 as follows:

Companies.	Looms used.	Working days.	Daily working hours.	Cloth woven.	Average per loom per day.	Yarn consumed.	Waste made.
				<i>Yards.</i>	<i>Yards.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Osaka Boseki.....	1,200	162	21	10,475,107	63.5	2,892,891	50,522
Miye Boseki.....	1,162	166	17	10,254,309	53.1	2,839,442	53,258
Kanakin Seishoku.....	784	153	11	4,917,223	41.0	1,423,376	12,375
Temma Orimono.....	425	157	11	1,998,394	29.8	625,839	3,977
Konagigawa Mempu.....	404	153	11	2,144,837	34.6	394,406	15,893
Kyoto Menneru.....	303	149	11	2,242,565	49.6	739,535	26,240
Nippon Boseki.....	253	253	12	1,911,010	46.5	455,453	8,105
Okayama Boseki.....	248	156	11	1,994,184	51.3	452,750	2,859
Wakayama Shokufu.....	213	160	12	2,040,802	65.8	596,536	16,667
Total.....	4,992	157	13	37,978,431	48.4	10,420,228	189,896

The number of operatives and their average wages during this first half of 1903 were as follows:

Companies.	Average daily operatives.			Average daily wages.	
	Males.	Females.	Total.	Males.	Females.
Osaka Boseki.....	164	734	898	<i>Sen.</i> 38.8	<i>Sen.</i> 25.3
Miye Boseki.....	173	1,223	1,396	39.3	21.3
Kanakin Seishoku.....	103	491	594	34.5	26.6
Temma Orimono.....	66	425	491	33.7	19.7
Konagigawa Mempu.....	67	373	440	38.3	20.9
Kyoto Menneru.....	14	305	319	34.1	26.3
Nippon Boseki.....	23	213	236	35.7	24.5
Okayama Boseki.....	24	219	243	35.2	25.0
Wakayama Shokufu.....	32	229	261	32.5	23.2
Total.....	666	4,212	4,878	36.9	23.7

The abbreviation K. K. in Japanese firm names (omitted in the foregoing tables) stands for kabushiki kaisha, or limited-liability company, and bouseki for spinning, so that Osaka Boseki Kabushiki Kaisha means Osaka Spinning Co. (Ltd.). Seishoku means weaving manufacture, orimono is stuff weaving, mempu is cloth manufacture, menneru is flannel, and shokufu is cloth weaving. The name of the company is usually taken from the locality, as Osaka, Miye, etc. "Kanakin," however, means shirting. Nippon, or Nihon, as it is sometimes written, means Japan.

In 1903 all the mills were plunging on T cloth. The Osaka made T cloth, sheeting, shirting, jeans, and nankeen; the Miye made T cloth and sheeting; the Kanakin, T cloth and shirting; the Temma, T cloth, sheeting, shirting, twills, and drills; the Konagigawa, T cloth, sheeting, drills, calico, and flannel; the Kyoto, flannel and shirting; the Nippon, T cloth only; the Okayama, T cloth and sheeting; and the Wakayama, T cloth, flannel, and stuffs for clothing. The above tables refer to the weave sheds only, not including the spinning sections, and they show that 4,878 operatives were required for 4,992 looms (the average looms in operation, not the total looms in the mills), or nearly 1 operative to the loom.

In the fall of 1902 the Japan Cotton Spinners' Association had tried to stimulate the export of coarse yarns by paying the export merchants a bounty of 3 yen on each bale (400 pounds) of coarse cotton yarns exported. Cloth made of coarse yarns also shared in this scheme, with a bounty of 1.10 yen per 300 kin of cloth exported. The bounty was to be paid the export merchants at the end of each six months, but, as previously mentioned, this system of encouraging exports was abruptly terminated by the ill-advised demand of the Chinese export merchants in Japan that the bounty be paid in cash at the time of shipment. This arrangement, therefore, lasted only from the 15th to the 29th of September, 1902.

EXPANSION OF MILLS DUE TO RUSSIAN WAR.

In 1903 only 196 looms were added, and as the nation was arming for war with Russia, of which the outcome at that time appeared very uncertain, no looms were ordered for the coming year. When the war was started by the Japanese in February, 1904, the issue

was too uncertain to tempt the industry to expand, but during the second half of the year business became more confident. As the weave mills by that time began to find themselves pushed to their capacity to supply the cloth required by the Army, large orders were sent to England for looms. Some of these were for additions to existing weave mills and some were for spinning mills which, because of the large profits made by the cloth mills, decided to install weaving equipment. Most of these looms arrived the following year, and 3,055 looms were added in 1905, bringing the total up to 8,140 by the end of the year. The exports of cloth increased from 9,454,268 yen in 1904 to 13,684,283 yen in 1905.

LARGER EXPORTS IN 1905.

The exports of cotton piece goods in 1905 in detail were as follows, according to the classification adopted by the customs in 1903, when the mills began to export drills, twilled shirtings, etc., thus necessitating the listing of more articles:

Articles.	Quantity.	Value.	Articles.	Quantity.	Value.
		Yen.			Yen.
Grey sheeting and shirting			Drills.....yards..	2,157,357	282,759
.....yards..	32,950,209	4,655,621	Twilled shirting.....do....	2,165,514	280,839
Imitation nankeen..pieces..	3,066,874	2,203,990	Gassed-yarn tissues.pieces..	150,614	223,872
T cloth.....yards..	10,754,218	1,104,782	Japanese toweling, plain		
Flannel:			weave.....pieces..	263,574	82,592
Not over 29 inches			Turkey reds.....yards..	362,048	29,793
wide.....yards..	6,103,512	589,142	All other tissues....pieces..	973,955	1,079,362
Over 29 inches wide,			Towels, Turkish and hon-		
yards.....	1,551,912	289,547	eycomb or huckaback,		
Crape:			dozens.....	1,724,988	1,608,087
Not over 20 inches			Blankets.....kin..	953,109	508,037
wide.....yards..	3,132,258	198,765	Handkerchiefs.....dozens..	127,934	76,076
Over 20 inches wide,					
yards.....	3,309,417	471,019	Total.....		13,684,283

Grey sheeting was the chief export, with nankeen and T cloth following. The narrow cloth formerly listed as “white cloth” was recorded after 1904 as “imitation nankeen.”

The exports of cotton piece goods in 1905 were distributed as follows:

Articles.	China.	Korea.	Hongkong.	Asiatic Russia.	British India.	All others.	Total.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
Sheeting.....	2,559,759	2,033,824	55,671	6,323	.....	44	4,655,621
Nankeen.....	27,234	2,174,000	588	93	.....	2,075	2,203,990
T cloth.....	794,720	244,724	65,338	.....	.....	.....	1,104,782
Flannel:							
Not over 29 inches							
wide.....	26,882	1,657	553,462	6,619	.....	522	589,142
Over 29 inches wide...	105,712	62,858	64,103	56,369	.....	505	289,547
Crape:							
Not over 20 inches							
wide.....	16,905	18,582	146,242	86	851	16,099	198,765
Over 20 inches wide..	24,248	7,291	96,177	.....	44,127	299,176	471,019
Drills.....	280,484	1,888	342	.....	.....	45	282,759
Twills.....	278,281	772	.....	1,010	.....	776	280,839
Gassed-yarn tissues.....	67,833	148,589	3,136	.....	392	3,922	223,872
Toweling.....	9,575	4,077	61,602	121	.....	7,217	82,592
Turkey reds.....	686	17,164	11,139	516	.....	288	29,793
Other tissues.....	414,673	519,595	29,343	15,616	487	99,648	1,079,363
Towels.....	926,884	77,476	267,058	47,255	113,272	176,142	1,608,087
Blankets.....	348,639	66,450	3,604	87,148	113	2,083	508,037
Handkerchiefs.....	56,363	4,720	85	3,259	126	11,523	76,076
Total.....	5,938,878	5,383,667	1,357,890	224,415	159,368	620,065	13,684,283

Included in the "all others" was 134,258 yen worth to the United States, mostly crape over 20 inches wide; 93,089 yen to Australia, mostly towels; 78,222 yen to Hawaii; and 43,432 yen to the Philippines. China, Korea, and Hongkong together accounted for 92.66 per cent of the total.

EFFORTS TO CAPTURE MARKET IN MANCHURIA.

The increased exports in 1905 were due partly to the needs of the Japanese armies in Manchuria and Korea. With Manchuria opened up to their trade the mills the next year decided to make every effort to capture that market. Of the nine weave sheds operating during the first half of 1906, the Osaka, Miye, Kanakin, Okayama, and Nippon wove cloth chiefly for export. To concentrate their efforts and to avoid competition as much as practicable, they formed a temporary union called the Cotton Cloth Export Association. They agreed that they would together ship 1,000 bales of cloth a month to Manchuria, and in order to win the market would sell it cheaper than the American sheeting and drill, whether or not they made a profit on the first year's business. Each of the five mills was to stamp its cloth with the Cotton Cloth Export Association mark in addition to its regular chop, and they were to endeavor to make the cloth as uniform as possible, as to both material and weaving. Mitsui Bussan Kaisha agreed to exploit the cloth in Manchuria without charge for a period of one year. It already had agencies in Manchuria and established others so that by the end of the year it had agents at Dalny, Newchwang, Mukden, Tichling, and Kwanchengtze and subagents at other points. The mills delivered the cloth to the Mitsui Bussan Kaisha in Japan, which forwarded it to agencies in Manchuria. The freight rate on cloth in 1906 from Kobe to Dalny was only 3 yen (\$1.494) per ton. The agencies of this firm, in addition to offering cloth at a lower price than the American, gave the larger Chinese merchants 2 per cent commission on sales and 30 days' time in which to pay.

COMPETITION WITH AMERICAN GOODS IN MANCHURIA.

Up to this time American sheeting and drill, made of American cotton, well woven and pure sized, had enjoyed a large trade in Manchuria and there had been little competition, for even the English found that they could not touch the Americans in price without sizing to an extent that would render the goods unsalable in Manchuria. The weak point of the American trade, however, was that it depended entirely on the quality of the cloth to sell itself, for there was no foreign merchant handling it nearer than Shanghai. The American goods were sold to Chinese wholesalers at Shanghai and they sold to agents of Chinese firms from Newchwang and interior points. The interior wholesalers of Manchuria had to buy from a middleman at Newchwang at a higher price or else keep an agent at Shanghai, and they usually had to pay cash in advance for the goods. The freight rate from Shanghai to Newchwang in 1906 varied between 4 and 6 taels per ton, averaging about \$3.79 United States currency.

Merchants who handled American goods were out money in advance and had to pay higher freight, while the Japanese cloth was delivered

at their door and the larger dealers were given a commission and time in which to pay. The Japanese cloth was inferior in quality but much cheaper, and the greater convenience offered merchants as well as the larger profit to be made under the Mitsui arrangements were too much for their conservatism, and many dropped the American cloth for the Japanese. The samples of Japanese cloth that had been shown in the spring of 1906 were almost equal to the American, but the cloth delivered was found inferior, being made of a mixture of Indian, Chinese, and American cotton; moreover it was poorly woven and had many imperfections. This caused great dissatisfaction among the dealers, but the price was so much lower than for the American that they could not refuse to handle the Japanese goods.

When the Japanese first began to push their sheeting, about May, 1906, the American sheeting was selling at about 4.50 taels per piece, or 8.45 cents gold per yard. The Japanese started their sheeting at 3.60 taels per piece, or 6.75 cents gold per yard. On account of the oversupply prices dropped during the year, but the Japanese had created such a demand for their goods that they were better able to maintain their price, and by the end of the year American sheeting was selling at about 3.70 taels per piece, or 7 cents gold per yard, while the Japanese had dropped to only 3.40 taels per piece, or 6.45 cents gold per yard. The difference had therefore narrowed from 1.7 cents per yard in May to only 0.55 cent at the close of the year.

MANCHURIAN MARKET OVERSTOCKED.

The effect of the Japanese policy was reflected immediately in their exports of piece goods. During the first half of 1906 the total exports were only 6,922,481 yen, but during the second half of the year they were 11,802,395 yen. The total cotton-goods exports for 1906 reached 18,724,876 yen, of which China alone took 10,351,434 yen. During the year exports to China amounted to 19,703,804 yards (24,630 bales) of grey sheeting and 2,142,630 yards (10,713 bales) of drills; most of these two articles went to Manchuria. In addition there were exported 8,107,444 yards of T cloth, 2,144,540 yards of twilled shirting, and a considerable amount of other goods.

Japanese competition and the great surplus of goods in the country caused a corresponding decline in the American sales. The Chinese customs show that the imports at Newchwang of American grey sheeting and shirting amounted to 1,071,559 pieces in 1903, 1,226,005 pieces in 1904, 2,331,381 pieces (116,569 bales) in 1905, and only 366,583 pieces (18,329 bales) in 1906.

A two years' supply of foreign cotton goods had been pushed into Manchuria in 1905 in the expectation that at the close of the war there would be a period of great prosperity. The Russians had left much money in the country, but the people had to cover their unroofed houses, replace their stock, plant new crops, and meet more urgent needs than for clothes. The cloth imported in 1905 was therefore largely carried over into 1906 in the merchants' warehouses, and when the Japanese by special inducements succeeded in pushing in a large additional amount during 1906 the stock was more than could be handled. Demand fell off sharply in 1907, and while this affected the market for all cottons, it was felt by the American trade more than by the Japanese. There was a slight

recovery in the American drill trade, which at Newchwang was recorded as 569,625 pieces in 1903, 442,291 pieces in 1904, 974,557 pieces in 1905, 65,958 pieces in 1906, and 130,540 pieces in 1907, but American sheeting declined to only 262,050 pieces. While there would have been a decline at this time anyway because of the large stocks, the narrowing of the outlet for American goods was due mainly to the competition of the cheaper products from Japan.

DECLINE IN TRADE IN 1907—LARGER EXPORTS TO KOREA.

Japan likewise suffered from the overstocking of the market. Since the leasing of the Kwantung Province the customs at Dalny have been administered by the Japanese, and their figures record the imports for Kwantung separate from those for the rest of China. Taking Kwantung and China together, however, Japan shipped them 10,351,034 yen of cotton goods in 1906, but only 8,656,978 yen in 1907. In 1906 the number of looms in Japanese cotton mills had risen to 9,601, but with the adverse markets abroad there was no increase in 1907; in fact, the statistics show a decline to 9,462 looms.

To offset the decline in the Manchurian demand the Japanese used similar sales methods in Korea and succeeded in pushing a large amount of cloth into that country, amounting to 6,508,703 yen in 1907, as against 4,575,954 yen in 1906. They also shipped to Asiatic Russia cotton goods amounting to 1,098,642 yen, as against 224,415 yen the preceding year. The increased sales to these points more than compensated for the drop in the Manchurian sales, and the total exports of cotton goods for 1907 were valued at 18,851,313 yen, or slightly more than in 1906.

CONDITIONS IN 1908 AND 1909.

From the middle of 1904 to the middle of 1907 the weaving mills, like the spinning mills, made large profits, owing, at first, to the great demand for goods for the armies, and, later, to the great increase in exports to Manchuria, but by the beginning of 1908 all Japan began to suffer from a reaction, and then came a sudden depreciation of silver in the Chinese market. This curtailed the export trade immediately. In 1906, for example, a Chinese merchant had to pay at Shanghai an average of 69.33 taels for 100 yen worth of Japanese goods and 69.17 taels in 1907, but during 1908 he had to pay an average of 84.24 taels, and his purchasing power was therefore much lower.

During 1908 China and Kwantung, Korea, and Hongkong all decreased their takings of Japanese cotton goods, so that the year's business came to only 16,169,065 yen. Despite this the number of looms increased from 9,462 to 11,146. The decline in exports of yarn had been greater than in exports of cloth, and as a dull home market affected the spinning more than the weaving mills, many manufacturers decided to add looms. In February, 1908, conditions were such that the spinning mills had to start short time, and they continued this, with varying proportions of machinery stopped, until October 1, 1912. During this period the spinning mills made

various efforts to stimulate their export trade, starting a lottery in 1908 and a premium system in 1909, but the weave mills did not share in either of these. Weave mills making coarse-yarn cloth for export, however, were exempted, both looms and their supplying spindles, from the compulsory short time enforced on all spinning mills by the Japan Cotton Spinners' Association, and this was one feature that induced many to add looms for the export trade. Even if the cloth was sold at a slight loss, this was preferable to the greater loss from having machinery standing idle with the fixed charges running on.

In 1909 trade in China began to pick up again, and favored by this the mills, in spite of the continuing adverse exchange, were able to increase their cloth exports to 19,178,502 yen; in 1910, with somewhat lower exchange, they amounted to 22,516,615 yen. During 1910, however, the main factor was the internal disturbances in China, which greatly interfered with the home weaving; moreover, the Chinese cotton crop was short and much more cloth was required from abroad. The Japanese looms increased to 13,813 during 1909 and to 17,702 during 1910.

CHARACTER OF EXPORTS IN 1910.

The total exports of cotton piece goods from Japan during 1910 were as follows:

Articles.	Quantity.	Value.
		<i>Yen.</i>
Grey sheeting and shirting.....yards..	54,598,810	6,541,873
Drills.....do....	41,669,931	5,083,185
Imitation nankeen:		
Not dyed.....pieces..	3,473,606	2,502,937
Dyed.....do....	427,307	357,330
Crape:		
Not over 20 inches wide.....yards..	949,754	84,610
Over 20 inches wide.....do....	7,157,616	983,356
Flannel:		
Not over 29 inches wide.....do....	8,723,203	803,941
Over 29 inches wide.....do....	1,054,936	154,690
Twilled shirting.....do....	6,117,132	712,252
Striped tissues.....pieces..	504,168	701,170
T cloth.....yards..	4,659,769	504,201
Counterpanes.....do....	1,407,660	288,975
Japanese toweling, plain weaves.....pieces..	540,078	167,008
Duck.....yards..	231,762	85,959
Gassed-yarn tissues.....pieces..	37,229	57,137
Satin.....yards..	198,914	54,437
Turkey red cambries.....do....	385,683	38,309
Mosquito netting.....pieces..	61,821	35,580
Bed tissues.....do....	7,525	8,903
All other tissues.....do....	870,378	1,296,682
Towels, Turkish and honeycomb or huckaback.....dozen..	2,016,293	1,838,117
Blankets.....kin..	214,481	123,874
Handkerchiefs.....dozen..	41,009	92,089
Total.....		22,516,615

In 1910 the chief exports were grey sheetings, drills, nankeens, towels, crape, flannel, twills, and stripes. In 1905 the principal exports had been grey sheetings, nankeens, and T cloths. The manufacture of T cloths declined because the mills were unable to equal the quality of the English goods and because sheetings and

drills were found to pay better. By 1908 drills had become second only to sheetings in the export trade, displacing nankeens, and by 1910 they were gaining on sheetings.

PRINCIPAL PURCHASERS.

The distribution of the exports in 1910 was as follows:

Articles.	China.	Kwan-tung.	Korea.	Hong-kong.	Philip-pines.	All others.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Sheeting.....	3,310,736	2,146,150	1,010,523	2,409	11,448	60,607	6,541,873
Drills.....	4,604,218	416,573	17,467	35,134	4,516	5,277	5,083,185
Nankeen:							
Not dyed.....	634,887	1,175,742	687,643	608	453	3,604	2,502,937
Dyed.....	47,236	228,553	71,914	456	29	9,142	357,330
Crape:							
Not over 20 inches wide	6,673	3,490	18,573	27,479	13,365	15,030	84,610
Over 20 inches wide...	37,572	50,814	20,894	62,102	214,974	597,000	983,356
Flannel:							
Not over 29 inches wide	31,595	5,615	1,730	538,197	68,149	158,655	803,941
Over 29 inches wide...	51,617	78,862	16,065	233	5,909	2,004	154,690
Twills.....	397,162	281,802	543	.....	30,282	2,463	712,252
Stripes.....	82,676	108,841	63,466	4,425	394,087	47,675	701,170
T cloth.....	283,913	10,071	186,689	22,371	18	1,139	504,201
Counterpanes.....	192,011	34,607	3,633	20,925	10,662	27,137	288,975
Toweling.....	13,699	3,174	4,481	114,273	127	31,254	167,008
Duck.....	62,584	5,332	8,188	8,678	28	1,149	85,959
Gassed-yarn tissues.....	4,927	10,101	13,118	2,218	441	26,332	57,137
Satins.....	23,630	570	1,874	.....	.....	28,363	54,437
Turkey reds.....	2,871	5,716	15,109	9,813	.....	4,800	38,309
Netting.....	.....	16	35,564	.....	.....	.....	35,580
Bed tissues.....	1,899	2,328	4,001	293	14	368	8,903
All other tissues.....	288,137	411,578	346,691	16,141	15,545	218,590	1,296,682
Towels.....	540,592	75,403	21,141	410,054	70,197	720,730	1,838,117
Blankets.....	82,603	11,752	7,046	880	266	21,327	123,874
Handkerchiefs.....	16,301	7,330	6,648	230	1,544	60,036	92,089
Total.....	10,717,539	5,074,420	2,563,001	1,276,919	842,054	2,042,682	22,516,615

Included in the "all others" was 431,269 yen worth to British India, mostly towels and crape; 248,010 yen to Australia, mostly towels and crape; 140,202 yen to the United States, mostly crape and handkerchiefs; 171,037 yen to Hawaii; and 119,439 yen to Asiatic Russia.

BOUNTY ON CLOTH EXPORTS—RAPID GROWTH OF TRADE.

The Japan Cotton Spinners' Association had continued to pay a bounty to mills exporting coarse yarns. As all mills contributed toward meeting the expenses while only those exporting coarse yarns benefited directly by the system, the others demanded participation in the bounties. This was finally agreed to, and from October 1, 1910, the bounty system was extended to include all exports of yarn and also cotton cloth made of No. 20 yarns and under. This cloth bounty amounted to 1.25 yen (62½ cents) per 300 kin (400 pounds). It was continued from October 1, 1910, to March 31, 1912, and greatly stimulated the exports.

Japanese official statistics show exports of cotton piece goods (including towels, handkerchiefs, and cotton blankets) valued at 22,516,615 yen in 1910, 21,485,263 yen in 1911, and 28,146,710 yen in 1912. The apparent decline in 1911 is due to the fact that since

1910, when Korea was annexed to Japan under the name of Chosen, exports to that country have not been included in the foreign trade. In 1906 the Japanese succeeded in pushing 6,508,703 yen worth of cloth into Korea, but thereafter, owing partly to an oversupply at first and later to the Japanese cloth not being satisfactory in quality, Korea's purchases steadily declined until they amounted to only 2,563,001 yen in 1910. When the country came under the control of the Japanese, who thereafter enjoyed special advantages, the purchases by Korea suddenly increased, amounting to 9,114,940 yen in 1911 and to 11,412,255 yen in 1912. If these amounts be included as exports (as they were before 1911), the exports of cloth from Japan were 22,516,615 yen in 1910, 30,600,203 yen in 1911, and 39,558,965 yen in 1912.

During 1911 the Japanese looms increased in number to 20,431 and during 1912 to 21,896, while on June 30, 1913, they were given as 23,783. More are now being installed and others have been ordered. In 1911 the imports by China and Kwantung as well as Chosen (Korea) increased, and the purchases by China proper would have been much larger but for the effects of the poor crops in the Yangtze Valley. The demand from all parts of China increased in 1912, and this, combined with a good demand in practically all their other markets, enabled Japanese cloth exports to reach the new official record, not including Chosen, of 28,146,710 yen, or \$14,017,062.

EXPORTS IN 1912.

The exports of cotton piece goods in 1912, by articles, were as follows:

Articles.	Quantity.	Value.
		Yen.
Grey sheeting and shirting.....yards..	87,097,682	10,469,675
Twilled tissues.....do.....	42,097,779	5,370,619
Imitation nankeen:		
Not dyed.....pieces..	5,192,671	4,096,987
Dyed.....do.....	351,657	321,129
Crape:		
Not over 20 inches wide.....yards..	178,562	18,541
Over 20 inches wide.....do.....	10,051,899	1,423,255
Flannel:		
Not over 29 inches wide.....do.....	8,174,165	778,299
Over 29 inches wide.....do.....	1,475,770	220,927
T cloth.....do.....	7,584,517	827,107
Counterpanes.....dozen..	81,694	496,759
Striped tissues.....pieces..	374,449	387,435
White sheeting and shirting.....yards..	1,634,140	213,080
Duck.....do.....	483,857	191,207
Japanese toweling, plain weaves.....pieces..	442,298	158,705
Spotted tissues.....do.....	79,180	112,750
Turkey red cambrics.....yards..	670,441	68,582
Gassed-yarn tissues.....pieces..	21,400	30,783
Satins.....yards..	38,495	11,752
Mosquito netting.....pieces..	1,227	989
All other tissues.....do.....	421,483	562,814
Towels, Turkish and honeycomb or huckaback.....dozen..	2,310,655	2,160,541
Blankets.....kin..	258,368	171,764
Handkerchiefs.....dozen..	75,642	53,010
Total.....		28,146,710

With the greatly increased demand for sheeting from China, due to the interruption to the home supply from the hand looms and to the better market after the first revolution, the Japanese export trade in sheetings advanced greatly. Trade in drills and twilled shirtings was stationary, so that the gap between the two, which lessened in the few years before 1911, again widened. Twilled tissues are still, however, the main export after grey sheeting, and will probably increase greatly in the future, especially as inferior weaving is not so noticeable in twilled fabrics as in plain-woven goods, and despite great improvement in recent years Japanese goods remain inferior to those of their competitors. After sheeting and twilled tissues, the chief exports in 1912 were nankeens, towels, crape, flannel, and T cloth.

JAPAN'S PRINCIPAL MARKETS.

The distribution of the exports in 1912 was as follows:

Articles.	China.	Korea. ^a	Kwan-tung.	Hong-kong.	British India.	All others.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Sheeting.....	6,387,134	6,771,558	3,532,574	14,544	411,027	124,396	10,469,675
Twills.....	4,078,890	50,002	1,158,235	12,319	96,445	24,730	5,370,619
Nankeens:							
Not dyed.....	742,009	1,873,268	3,335,650	5,258	163	13,907	4,096,987
Dyed.....	29,140	304,410	280,912	387	2	10,688	321,129
Crape:							
Not over 20 inches wide.....	927	17,238	1,238	7,134	760	8,482	18,541
Over 20 inches wide.....	36,028	79,665	32,671	45,707	76,901	1,231,948	1,423,255
Flannel:							
Not over 29 inches wide.....	37,843	2,060	5,197	536,040	2,327	196,892	778,299
Over 29 inches wide.....	132,755	92,473	73,962	8,834	21	5,355	220,927
T cloth.....	594,768	775,873	131,282	54,047	23,318	23,692	827,107
Counterpanes.....	296,791	6,894	64,500	45,257	40,347	49,864	496,759
Stripes.....	36,273	73,313	100,272	4,922	15,536	230,432	387,435
White shirting.....	17,023	413,707	140,311	3,154	49,611	2,981	213,080
Duck.....	151,839	34,231	26,869	11,710	-----	789	191,207
Toweling.....	20,370	9,999	2,387	75,992	289	59,667	158,705
Spotted tissues.....	8,107	97,430	34,129	805	324	69,385	112,750
Turkey reds.....	21,185	44,205	13,753	29,743	442	3,459	68,582
Gassed-yarn tissues.....	4,229	49,528	12,942	876	515	12,221	30,783
Satins.....	11,523	3,605	202	-----	-----	27	11,752
Netting.....	226	29,211	445	210	-----	108	989
All other tissues.....	110,243	463,438	221,723	16,244	14,450	200,154	562,814
Towels.....	585,491	112,658	142,219	443,626	409,955	579,250	2,160,541
Blankets.....	106,091	95,380	32,785	2,826	576	29,486	171,764
Handkerchiefs.....	5,745	12,109	9,621	758	147	36,739	53,010
Total.....	13,414,630	11,412,255	9,353,879	1,320,393	1,143,156	2,914,652	28,146,710

^a In 1911 and 1912 exports to Korea (now called Chosen) were domestic commerce and are not included in the export totals; the figures are given to show the contrast with previous years.

Included in the "all others" were 644,453 yen worth to the Philippines, mainly crape, stripes, and towels; 530,239 yen to Australia (crape and towels); 420,393 yen to the Straits Settlements (towels, crape, and flannels); 234,463 yen to the United States (crape); 311,451 yen to the Dutch East Indies (towels, flannel, and crape); 196,209 yen to Hawaii (spotted and striped tissues); 165,203 yen to Asiatic Russia (grey sheeting); 136,583 yen to Siam (towels, T cloth, and grey sheeting); and 75,778 yen to Great Britain (crape). Goods other than those named were shipped to the countries listed, but in comparatively small quantities.

DEVELOPMENT OF FOREIGN TRADE.

The following table shows where the Japanese have found their best markets for cotton piece goods, including blankets, towels, and handkerchiefs, and the rate of progress in each:

Years.	China.	Korea. ^a	Kwan-tung. ^b	Hong-kong. ^c	British India.	Philippines.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
1885.....	154,083	20,508	.....	.....	.....	.....
1886.....	216,465	11,844	.....	.....	.....	.....
1887.....	150,994	14,211	.....	.....	.....	.....
1888.....	137,353	11,471	.....	.....	.....	23
1889.....	12,062	9,005	.....	113,090	1,341	.....
1890.....	10,009	40,031	.....	101,878	2,550	298
1891.....	33,306	70,499	.....	100,907	11,273	.....
1892.....	153,904	27,731	.....	256,432	58,040	1,027
1893.....	337,694	18,813	.....	430,952	221,071	592
1894.....	390,715	238,373	.....	620,491	400,644	2,531
1895.....	404,966	966,564	.....	506,977	118,814	2,438
1896.....	636,452	884,779	.....	582,668	142,661	6,062
1897.....	692,298	1,312,454	.....	464,875	119,004	240
1898.....	652,047	1,262,900	.....	739,837	100,979	741
1899.....	1,259,057	1,666,815	.....	1,057,523	132,484	3,366
1900.....	1,049,360	3,671,566	.....	1,020,881	124,732	14,131
1901.....	1,337,762	3,173,914	.....	963,845	108,095	26,680
1902.....	2,761,970	2,720,740	.....	1,122,264	6,636	16,887
1903.....	3,950,428	2,525,725	.....	1,298,705	48,312	13,975
1904.....	4,062,896	3,488,647	.....	1,115,540	208,752	47,235
1905.....	5,938,878	5,383,667	.....	1,357,890	159,368	43,432
1906.....	10,351,034	4,575,954	.....	1,720,650	156,229	131,715
1907.....	5,852,354	6,508,703	2,804,594	1,485,783	342,440	449,791
1908.....	5,124,314	5,653,148	2,139,022	627,803	326,942	690,338
1909.....	7,217,564	4,619,108	3,620,886	774,801	265,811	939,898
1910.....	10,717,539	2,563,001	5,074,420	1,276,919	431,269	842,054
1911.....	10,673,350	9,114,940	6,863,554	857,198	411,080	852,544
1912.....	13,414,630	11,412,255	9,353,879	1,320,393	1,143,156	644,453

Years.	United States.	Hawaii.	Australia.	Asiatic Russia.	All others.	Total.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
1885.....	1,040	66	125	1,585	592	177,999
1886.....	1,200	80	25	1,327	558	231,499
1887.....	831	18	.....	1,403	3,183	170,640
1888.....	1,101	54	10	925	2,657	153,594
1889.....	5,248	188	877	707	4,517	147,035
1890.....	5,993	764	112	2,983	9,225	173,843
1891.....	13,962	1,279	350	2,448	9,334	243,358
1892.....	29,783	5,792	446	4,615	6,252	544,022
1893.....	42,147	44,542	1,624	4,495	7,613	1,109,543
1894.....	118,996	51,277	6,191	7,762	24,222	1,861,202
1895.....	187,494	40,663	11,263	29,700	47,061	2,315,940
1896.....	39,365	38,052	11,315	135,098	78,759	2,555,211
1897.....	22,051	29,668	25,588	124,934	59,471	2,850,583
1898.....	21,873	45,584	6,990	220,672	16,615	3,068,238
1899.....	18,230	75,807	4,429	263,219	23,181	4,504,111
1900.....	20,723	86,824	6,867	309,438	29,992	6,334,514
1901.....	24,874	121,835	11,440	51,201	435,067	6,254,713
1902.....	37,700	93,244	13,450	7,307	158,341	6,938,539
1903.....	64,240	81,391	26,716	12,174	248,884	8,270,550
1904.....	103,182	83,426	118,336	1,532	224,722	9,454,268
1905.....	134,258	78,222	93,089	224,415	271,064	13,684,283
1906.....	84,928	102,919	133,987	1,098,642	368,818	18,724,876
1907.....	130,764	104,257	28,577	555,807	588,213	18,851,313
1908.....	83,152	97,407	127,042	757,542	542,355	16,169,065
1909.....	112,216	134,543	213,170	466,268	814,237	19,178,502
1910.....	140,202	171,037	248,010	119,439	932,725	22,516,615
1911.....	166,826	184,713	303,220	193,466	979,312	21,485,263
1912.....	234,463	196,209	530,239	165,203	1,144,085	28,146,710

^a Exports in 1911 and 1912, after Korea was annexed to Japan, are not included in export totals.

^b Included in China prior to 1907.

^c Included in China prior to 1889.

CHANGES IN DIRECTION OF EXPORT TRADE.

As regards markets, the cloth exports may be divided into three periods: First, until 1895 Hongkong was the main market; second, from 1895 to 1901 inclusive, Korea; and, third, during and since 1902, China (including Kwantung). During the first period the exports were almost entirely hand-woven goods, of which cotton crape and cotton flannel were the principal items. With the close of the war with China the Japanese began exporting to China narrow plain-woven goods, the so-called "white cloth" which was largely woven in Japan by farmers' families during the wintertime and which replaced in Korea similar nankeen imported from China. This nankeen was the chief export during the second period, though an increasing proportion was made on power looms. During the third period the principal export has been 36-inch grey sheeting, made in imitation of the American on power looms, for which the main market has been found in China.

In 1901 Korea took 3,173,914 yen worth and China only 1,337,762 yen, but in 1902 China took slightly more than Korea, and since then the proportionate takings by China have increased more rapidly. Kwantung Province, though leased to Japan and shown separately since 1906, is part of China. The trade with China, including Kwantung, reached 10,351,034 yen in 1906, but declined the next two years on account of the oversupply and the reaction in Manchuria after the Russian War; afterwards it increased again until it reached 22,768,509 yen in 1912. The trade with Manchuria through Dalny, with a slight setback in 1908, has increased steadily. The trade with Korea decreased steadily from 1907 until 1910, but in 1911 and 1912 it showed a great increase, due to the changed conditions after annexation, though in the last two years this trade has been classed as domestic and is not included in the total exports.

The trade with Hongkong reached a maximum of 1,720,650 yen in 1906, but has since fluctuated considerably. The trade with India was small until 1912, when it expanded considerably, owing partly to the favorable freight rates during the price-cutting competition between the Nippon Yusen Kaisha's new line to Calcutta and the British India Steam Navigation Co. The trade with the Philippines reached its maximum with 939,898 yen in 1909, since which there has been a decline. The cloth trade with the United States is small, the maximum being 234,463 yen in 1912, the bulk of this being Japanese crape. The trade with Hawaii is small, but reached a maximum of 196,209 yen in 1912. With Australia the trade reached 530,239 yen in 1912, owing to a larger demand for cotton crape and towels. The trade with Asiatic Russia amounted to 309,438 yen in 1900, declined to 1,532 yen during the war year of 1904, rose to 1,098,642 yen in 1906 just after the war, and then declined to 165,203 yen in 1912.

CHINA NOW MOST IMPORTANT OUTLET.

The trade with Chosen is now domestic, so that for cotton cloth, as for cotton yarn, Japan has practically only one market and that is China (considering Kwantung as part of China). Of the exports of cotton piece goods in 1912 amounting to 28,146,710 yen (\$14,017,062), China (including Kwantung) alone took \$11,338,717, or 80.89 per cent.

China is, therefore, the only market of much importance where the Japanese can find an outlet for their exports of cotton yarn and piece goods, and they are bending every energy to capture that trade. They are in close touch with conditions there and are able to take advantage of any change in the demand. Their freight rates are, of course, much lower than those of their competitors. Japanese labor is cheap but inefficient, and the fact that their goods sell cheaper than those from the United States and other countries seems to be due fully as much to the fact that they use inferior materials, mixing in Indian and Chinese cotton with only enough American to improve the appearance, as it is to their cheaper labor. Of course their long hours also help them greatly by distributing the fixed charges over a greater output. The English ship chiefly the finer goods, and the principal nations that suffer in China from Japanese competition are British India in yarn and the United States in cloth.

Since 1906 the Japanese have listed their exports to China according to sections of the country. In addition to Kwantung Province, of which Dalny is the port, they show the exports to Manchuria through the port of Newchwang; Northern China, of which the main ports are Tientsin, Tsingtau, Chefoo, and Chinwangtao; Central China, which embraces Shanghai, Hankow, and other ports of the Yangtze Valley; and Southern China, of which the main ports are Foochow, Amoy, Swatow, and Canton.

EXPORTS TO VARIOUS PARTS OF CHINA.

According to Japanese statistics the exports of cotton piece goods of all kinds to China during the six years ended in 1912 have been as follows:

Years.	Kwantung.	Manchuria.	Northern.	Central.	Southern.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
1907.....	2,804,594	972,882	3,131,204	1,722,796	25,502	8,656,978
1908.....	2,139,022	1,371,366	2,080,735	1,641,017	31,196	7,263,336
1909.....	3,620,886	2,126,734	3,420,006	1,638,257	32,567	10,838,450
1910.....	5,074,420	3,029,812	5,209,056	2,442,298	36,373	15,791,959
1911.....	6,863,554	3,782,334	4,331,737	2,508,848	50,431	17,536,904
1912.....	9,353,879	2,571,414	7,286,969	3,498,314	57,933	22,768,509

Cloth sales to South China are negligible, though some of the goods shipped to Hongkong probably find their way to this section. In the Yangtze Valley, which is the chief yarn market, Japanese cloth sales though increasing are comparatively small and consist primarily of drills and twills, with smaller amounts of sheeting and T cloth and towels. In North China the Japanese have developed a considerable trade with Tientsin and Tsingtau, especially in grey sheeting and drills and twilled shirting, but have not done so well at Chefoo. Their main attention has been concentrated on the Manchurian trade. Most of this trade goes through the port of Dalny, with a much smaller amount direct to Newchwang. Of the total Japanese sales to China in 1912, amounting to 22,768,509 yen, shipments to Manchuria through Dalny and Newchwang accounted for 11,925,293 yen, or over half.

CHARACTER OF GOODS SHIPPED TO CHINA.

The exports to China (including Kwantung) in 1912, so far as shown in detail by the customs statistics, were as follows:

Articles.	Kwantung.	Manchuria.	Northern.	Central.	Southern.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Dyed nankeen.....	280,912	8,273	4,823	16,015	29	310,052
Gassed-yarn tissues.....	12,942	1,673	1,733	803	20	17,171
Twilled tissues.....	1,158,235	485,416	2,083,536	1,509,938	.....	5,237,125
Flannel.....	79,159	16,047	43,632	93,214	17,705	249,757
Grey sheeting.....	3,532,574	1,247,798	4,422,674	716,556	106	9,919,708
T cloth.....	131,282	24,626	217,758	341,954	10,430	726,050
All other tissues.....	3,974,150	701,261	316,949	417,354	16,980	5,426,694
Handkerchiefs.....	9,621	1,012	2,680	1,903	150	15,366
Towels.....	142,219	50,136	160,367	363,036	11,952	727,710
Blankets.....	32,785	35,172	32,817	37,541	561	138,876
Total.....	9,353,879	2,571,414	7,286,969	3,498,314	57,933	22,768,509

The main article among the “all other tissues” shipped to Kwantung is grey nankeen. Japan ships China chiefly grey sheeting (this includes a small amount of grey shirting) and twilled tissues (drills and twilled shirting). The best market for sheeting is found in Manchuria (most of it going in through Dalny) and in North China. For twilled fabrics (mainly drills) the largest market is in North China, which is followed by Manchuria and the Yangtze Valley. Of 41,113,133 yards of twilled tissues shipped to China (including Kwantung) in 1912, Manchuria took 12,902,843 yards (9,176,712 through Dalny and 3,726,131 through Newchwang), North China 16,435,840 yards, Central China 11,774,450 yards, and South China none.

TREND OF CHINESE TRADE.

The Japanese tend to extend their competition in cotton cloth not only in Manchuria but also in North China and to a lesser extent in Central China. This is illustrated by their exports of grey sheeting and shirting to China in the six years ended in 1912, which have been as follows:

Years.	Kwantung.	Manchuria.	Northern.	Central.	Southern.	Total.
	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>
1907.....	10,497,107	4,194,905	6,409,960	1,354,120	.....	22,456,092
1908.....	8,735,906	6,141,880	3,351,080	871,000	.....	19,099,866
1909.....	15,929,301	9,249,061	8,886,432	3,177,320	.....	37,242,114
1910.....	18,545,838	12,193,006	11,445,503	3,912,248	15,600	46,112,195
1911.....	23,817,563	15,525,221	17,009,692	4,708,371	8,400	61,069,247
1912.....	29,457,249	10,473,019	36,152,920	5,691,451	1,200	81,775,839

In 1912 the exports of sheeting to the northern ports more than doubled those of 1911 and the purchases by this section were only exceeded by those of Manchuria through both Dalny and Newchwang.

MARKETS FOR DIFFERENT FABRICS.

The various countries to which Japan now ships cotton piece goods buy chiefly the following lines:

China.—The great bulk consists of grey sheeting and shirting, and drill and twilled shirting; next come nankeen, T cloth, towels, counterpanes, flannel, duck, and blankets.

Kwantung Province.—The great bulk consists of grey sheeting and grey nankeen, followed by drill, twilled shirting, dyed nankeen, towels, white shirting, T cloth, and stripes.
 Hongkong.—Flannel and towels.
 British India.—Grey shirting and towels, twills, and crape.
 Philippines.—Crape, stripes, and towels.
 Australia.—Crape and towels.
 Straits Settlements.—Towels, crape, and flannel.
 United States.—Crape, with some narrow toweling and handkerchiefs.
 Dutch India.—Towels, flannel, and crape.
 Hawaii.—Stripes, and spotted fabrics (Kasuri).
 Asiatic Russia.—Grey sheeting.

In addition, Chosen (Korea), though it is now classed as domestic trade, takes large amounts of grey sheeting, nankeen, dyed nankeen, and smaller amounts of T cloth, white shirting, towels, crape, flannel, and blankets.

DEVELOPMENT OF TRADE IN PRINCIPAL LINES.

In the table on page 131 the development of the value of the piece-goods exports by countries has been traced. In the following table is shown the development of these exports by articles. Until 1892 the customs listed separately only the one article of flannel, and until 1898 only crape, flannel, and Japanese toweling, but upon revision of the export classification in 1898 the statistics back to 1896 were compiled according to the new classification in order to afford the usual three-year comparison.

GREY SHEETING AND SHIRTING.

Years.	China.	Korea. ^a	Kwan-tung. ^b	Hongkong.	All others.	Total.
	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>
1896.....	330,182	1,469,686	.....	1,920	82,640	1,884,428
1897.....	974,925	2,458,936	.....	9,048	.....	3,442,909
1898.....	890,670	2,927,248	.....	340,980	7,730	4,166,628
1899.....	2,551,200	4,526,895	.....	286,400	5,400	7,369,895
1900.....	2,747,820	12,189,020	.....	731,600	265,580	15,934,020
1901.....	2,481,220	9,230,891	.....	92,960	3,650	11,808,721
1902.....	9,111,238	8,999,494	.....	351,380	11,329	18,473,441
1903.....	11,773,208	11,448,478	.....	941,950	87,860	24,251,496
1904.....	11,878,077	9,929,372	.....	208,000	273,594	22,289,043
1905.....	19,703,804	12,776,485	.....	418,720	51,200	32,950,209
1906.....	33,927,833	15,367,119	.....	800,400	996,238	51,091,590
1907.....	11,958,985	22,452,889	10,497,107	1,062,178	1,392,425	47,363,584
1908.....	10,363,960	18,691,626	8,735,906	.....	1,982,094	39,773,586
1909.....	21,312,813	16,387,857	15,929,301	63,600	1,068,714	54,762,285
1910.....	27,566,357	7,804,455	18,545,838	18,000	664,160	54,598,810
1911.....	37,251,684	27,844,085	23,817,563	66,240	1,877,804	63,013,291
1912.....	52,318,590	48,434,140	29,457,249	112,620	5,209,223	87,097,682

DRILLS. ^c

1902.....	252,826	2,000	.....	.....	2,108	256,934
1903.....	1,659,860	30,100	.....	112,000	95,328	1,897,288
1904.....	5,075,853	1,677	.....	.....	23,680	5,101,210
1905.....	2,142,630	12,177	.....	2,400	150	2,157,357
1906.....	6,438,655	8,577	.....	6,400	65,234	6,518,866
1907.....	10,857,220	3,807	176,313	12,340	114,682	11,164,362
1908.....	14,793,979	50,027	1,149,432	800	314,498	16,308,736
1909.....	25,201,040	260,101	1,262,881	.....	493,095	27,217,117
1910.....	37,760,300	138,119	3,436,557	261,600	73,355	41,669,931
1911.....	25,460,290	144,603	5,586,483	587,600	121,421	31,755,794
1912.....	31,936,421	332,923	9,176,712	98,931	885,715	42,097,779

^a Exports to Korea not included in totals after 1910.
^b Included in China prior to 1907.
^c Includes, in 1912, "twilled shirtings," with which drills were grouped in 1912 under the new classification "twilled tissues."

TWILLED SHIRTING.

Years.	China.	Korea. ^a	Kwan-tung. ^b	Hongkong.	All others.	Total.
	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>
1902.....	200,000	.....	.....	.....	.....	200,000
1903.....	1,699,432	22,800	.....	.....	800	1,723,032
1904.....	1,132,900	11,392	.....	.....	.....	1,144,292
1905.....	2,144,540	6,344	.....	.....	14,630	2,165,514
1906.....	1,422,380	1,560	.....	4,880	20,000	1,448,820
1907.....	1,594,400	6,727	.....	14,900	3,140	1,619,167
1908.....	1,679,640	33,140	120,920	1,600	150,256	1,985,556
1909.....	288,125	15,444	27,530	12,400	62,700	406,199
1910.....	3,388,080	4,420	2,453,000	.....	271,632	6,117,132
1911.....	6,292,690	3,352	2,069,585	.....	171,760	8,534,035

T CLOTH.

1896.....	336,780	3,488	.....	6,725	2,485	349,478
1897.....	577,600	2,262	.....	98,451	12,000	690,313
1898.....	2,082,160	188,518	.....	1,014,320	.....	3,284,998
1899.....	5,041,304	426,044	.....	309,760	8,235	5,785,343
1900.....	2,231,581	2,760,285	.....	735,050	25,350	5,752,266
1901.....	5,642,526	3,385,671	.....	950,400	.....	9,978,597
1902.....	10,227,026	1,356,840	.....	1,260,240	13,650	12,857,756
1903.....	10,549,508	1,643,212	.....	931,120	27,718	13,151,558
1904.....	6,664,322	1,352,128	.....	292,320	28,800	8,337,570
1905.....	8,107,444	1,866,934	.....	779,840	.....	10,754,218
1906.....	6,155,714	1,616,317	.....	518,124	84,180	8,374,335
1907.....	3,865,036	2,286,164	14,363	248,800	69,158	6,483,521
1908.....	2,802,926	2,714,733	182,273	364,600	3,840	6,068,372
1909.....	2,666,342	2,069,200	318,247	73,560	17,380	5,144,729
1910.....	2,785,220	1,498,869	95,648	271,440	8,592	4,659,769
1911.....	3,935,144	6,200,373	379,483	253,920	8,196	4,576,743
1912.....	5,226,566	6,054,410	1,340,869	534,830	482,252	7,584,517

CRAPE.

Years.	Philip-pines.	Australia.	United States.	Dutch India.	Straits Settle-ments.	Hongkong.	All others.	Total.
	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>
1896.....	1,865	1,599	15,421	.....	.....	188,029	177,715	384,629
1897.....	172	3,689	6,889	.....	.....	215,721	86,710	313,181
1898.....	274	1,392	5,173	.....	.....	206,144	100,583	313,566
1899.....	1,447	508	5,650	.....	.....	271,836	115,728	395,169
1900.....	1,899	1,179	7,622	.....	.....	241,417	129,026	381,143
1901.....	4,140	3,282	6,529	.....	.....	287,707	103,203	404,861
	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>
1902.....	45,042	23,288	166,150	19	226,991	2,970,065	961,389	4,392,939
1903.....	47,121	63,837	248,935	919	221,360	3,818,657	1,222,344	5,633,173
1904.....	73,976	121,251	652,110	36,233	383,456	3,863,589	1,953,522	7,084,137
1905.....	163,855	110,711	720,374	38,173	648,414	3,185,190	1,574,958	6,441,675
1906.....	387,145	195,332	423,682	127,357	468,118	2,377,045	1,934,946	5,913,628
1907.....	2,106,163	165,280	529,544	804,238	807,690	2,071,388	3,440,786	9,925,089
1908.....	3,107,945	381,949	266,484	1,168,968	673,290	633,975	2,871,050	9,103,661
1909.....	2,632,763	853,690	432,285	1,451,033	767,067	541,267	3,313,196	9,991,301
1910.....	2,042,708	660,785	438,643	525,611	828,910	812,925	2,797,788	8,107,370
1911.....	3,542,076	975,977	630,001	738,869	723,980	538,157	2,346,803	9,495,863
1912.....	2,869,321	2,224,008	941,064	712,346	638,668	443,906	2,401,148	10,230,461

COTTON FLANNEL.

Years.	Hongkong.	China.	Dutch India.	Straits Settle-ments.	Korea. ^a	Kwan-tung. ^b	All others.	Total.
	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>
1896.....	219,870	47,664	.....	.....	945	.....	28,005	296,484
1897.....	103,787	43,773	.....	.....	1,319	.....	18,543	166,422
1898.....	179,647	35,452	.....	.....	2,855	.....	17,170	235,124
1899.....	395,005	92,432	.....	.....	2,250	.....	23,655	513,342
1900.....	288,220	42,413	.....	.....	4,783	.....	34,243	369,659
1901.....	243,956	79,147	.....	.....	5,396	.....	3,630	332,129

^a Exports to Korea not included in totals after 1910. ^b Included in China prior to 1907.

COTTON FLANNEL—Continued.

Years.	Hongkong.	China.	Dutch India.	Straits Settlements.	Korea. ^a	Kwan-tung. ^b	All others.	Total.
	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>	<i>Yards.</i>
1902.....	4,523,099	1,054,719	.....	.....	106,633	.....	10,915	5,695,366
1903.....	5,500,896	2,351,577	.....	.....	308,521	.....	69,132	8,230,126
1904.....	4,654,492	1,750,902	.....	.....	317,642	.....	7,970	6,731,006
1905.....	6,152,991	817,871	.....	5,424	344,563	.....	434,575	7,655,424
1906.....	7,656,523	1,406,929	600	4,995	246,785	.....	727,888	10,043,720
1907.....	5,354,185	526,012	21,334	132,345	363,729	111,998	272,443	6,782,046
1908.....	2,275,563	476,776	23,514	532,495	530,508	158,022	512,554	4,509,432
1909.....	3,475,650	609,751	391,640	957,146	514,958	254,258	275,498	6,478,901
1910.....	5,931,382	669,986	833,998	960,795	111,503	566,043	704,432	9,778,139
1911.....	2,722,780	958,176	1,120,815	769,134	791,098	692,010	612,669	6,875,584
1912.....	5,737,223	1,210,749	1,004,199	796,157	643,108	539,352	362,255	9,649,935

IMITATION NANKEEN.

Years.	Kwan-tung. ^b	Korea. ^a	China.	All others.	Total.
	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>
1897.....	.....	923,659	9,570	803	934,032
1898.....	.....	961,801	1,703	1,846	965,350
1899.....	.....	1,613,514	11,616	2,614	1,627,744
1900.....	.....	2,929,379	69,345	73,309	3,072,033
1901.....	.....	2,256,967	16,306	3,955	2,277,228
1902.....	.....	1,849,955	5,051	5,969	1,860,975
1903.....	.....	801,793	3,350	7,967	813,110
1904.....	.....	1,549,842	26,498	6,756	1,583,096
1905.....	.....	3,012,278	48,432	6,164	3,066,874
1906.....	.....	1,648,856	250,727	6,626	1,906,209
1907.....	253,461	2,337,192	34,669	14,481	2,639,803
1908.....	197,555	1,985,991	81,339	10,127	2,275,012
1909.....	775,807	1,464,542	361,097	14,459	2,615,905
1910.....	1,591,203	968,543	904,960	8,900	3,473,606
1911.....	2,627,550	2,434,298	884,248	15,598	5,527,396
1912.....	4,239,438	2,716,862	920,281	32,952	5,192,671

DYED NANKEEN.

Years.	Kwan-tung. ^b	Korea. ^a	China.	All others.	Total.
1906.....	.....	18,316	464,951	6,031	489,298
1907.....	289,708	81,149	130,339	6,479	507,675
1908.....	101,937	102,840	12,269	12,314	229,360
1909.....	129,539	84,949	12,385	4,656	231,529
1910.....	273,405	73,762	69,303	10,837	427,307
1911.....	386,149	210,067	20,044	8,215	414,408
1912.....	316,703	387,812	24,650	10,304	351,657

COTTON TOWELS, TURKISH AND HONEYCOMB OR HUCKABACK.

Years.	China.	Hong-kong.	British India.	Kwan-tung. ^b	Straits Settlements.	Korea. ^a	All others.	Total.
	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>
1896.....	104,875	53,409	39,471	.....	.....	4,337	21,258	223,350
1897.....	122,614	62,104	58,173	.....	.....	10,787	8,514	262,192
1898.....	131,684	80,814	44,875	.....	.....	15,570	28,085	301,028
1899.....	147,539	108,224	69,114	.....	.....	32,707	21,442	379,026
1900.....	187,332	115,029	62,177	.....	.....	35,232	31,210	430,980
1901.....	307,851	154,306	60,318	.....	.....	52,518	13,937	588,930
1902.....	491,486	171,497	931	.....	48,165	31,453	10,371	753,903
1903.....	592,068	252,892	10,954	.....	80,763	53,155	34,864	1,024,696
1904.....	797,610	341,568	68,255	.....	78,562	78,327	82,824	1,447,146
1905.....	1,009,583	396,790	73,809	.....	66,716	72,713	105,377	1,724,988
1906.....	1,090,099	426,775	90,370	.....	116,139	58,182	367,833	2,149,398
1907.....	956,350	410,572	209,449	30,341	112,935	84,891	184,760	1,989,298
1908.....	553,051	242,858	103,266	21,778	72,872	73,020	138,056	1,204,901
1909.....	588,437	389,132	103,164	39,676	97,797	66,344	160,554	1,445,104
1910.....	709,504	608,716	232,917	111,545	131,125	23,704	198,782	2,016,293
1911.....	590,122	523,395	209,285	131,646	113,086	121,008	235,591	1,803,125
1912.....	721,995	714,592	229,728	205,894	181,754	139,004	256,692	2,310,655

^a Exports to Korea not included in totals after 1910.^b Included in China prior to 1907.

TOTAL EXPORTS OF OTHER COTTON GOODS.

Years.	Cotton blankets.	Japanese toweling.	Turkey-red cambrics.	Cotton handker- chiefs.	Gassed- yarn tissues.	Cotton satins.
	<i>Kin.</i>	<i>Pieces.</i>	<i>Yards.</i>	<i>Dozens.</i>	<i>Pieces.</i>	<i>Yards.</i>
1896.....	253,031	220,004	342,293	32,108	82,582	.....
1897.....	253,713	228,592	195,706	29,177	216,381	.....
1898.....	395,008	311,789	445,985	18,191	157,771	.....
1899.....	479,125	316,535	617,370	18,826	249,500	.....
1900.....	457,700	338,726	675,416	35,983	196,774	.....
1901.....	543,026	494,655	635,172	30,509	101,671	.....
1902.....	496,178	566,547	449,359	55,838	55,177	.....
1903.....	910,421	533,297	548,802	78,304	83,291	.....
1904.....	563,953	397,247	620,028	77,447	79,338	.....
1905.....	963,109	263,574	362,048	127,934	150,614	.....
1906.....	1,123,122	629,935	181,807	386,149	144,203	210,731
1907.....	434,537	432,150	310,305	279,810	47,076	201,108
1908.....	271,329	241,168	381,459	163,662	31,119	103,640
1909.....	271,837	471,114	112,586	109,908	33,320	76,348
1910.....	214,481	540,078	385,683	141,009	37,229	198,914
1911.....	167,920	397,609	209,348	143,944	28,134	105,307
1912.....	258,368	442,298	670,441	75,642	21,400	38,495

SHEETING, SHIRTING, DRILL, AND T CLOTH.

Japanese grey sheetings and shirtings find their chief markets in China, Korea, and Kwantung. Most of the goods so classed are grey sheetings, of which the Japanese standard is 36 inches wide and 44 by 44 construction. Only a small proportion are of sufficiently fine yarns to be classed as shirting. Part of these are shipped to more southerly countries, such as British India.

Drills and twilled shirtings find their principal markets in China and Kwantung. T cloth is most largely sold in Korea and China, but sales have declined considerably from what they were in 1902 and 1903.

CRAPE AND FLANNEL.

Cotton crape is sent to many countries, but the main markets now are the Philippines, Australia, the United States, the Dutch East Indies, the Straits Settlements, and Hongkong. Smaller amounts go to various other countries, including Great Britain and continental Europe. Crape is probably the most widely distributed of all Japanese cotton goods. Until 1907 the best market was found in Hongkong, but with the development of direct shipping to the Philippines the Hongkong imports have declined. The crape exports are divided into those of 20 inches and under and those exceeding 20 inches. The crape most largely used in Japan is for summer kimonas and is 1 shaku (14.913 inches) wide. Most of it is printed, as prints are preferred to the striped goods; little is ever used in the white, as that is the color for mourning. Very little of this narrow crape is exported, though some is taken by Korea for the use of the Japanese there. The crape exported is wider, being 2 shaku (30 inches) to 2 shaku 5 sun (37¼ inches), and it is printed, piece-dyed, or made with stripes of dyed yarn. Most of the exports, especially to the Philippines, are made with stripes. The United States takes mostly the printed crape.

Cotton flannel finds its best market in Hongkong, other markets being China, Dutch East Indies, Straits Settlements, Korea, Kwantung, and the Philippines. These flannelettes are usually made in

pieces 1 shaku 6 sun (22.37 inches) wide by 15 yards long, or 2 shaku (29.83 inches) wide by 30 yards long. The exports are therefore classified as under or over 29 inches in order to distinguish between the two. For the narrower goods the best market is found in Hongkong, the Dutch East Indies, and the Straits Settlements, while those 29 inches and over are sold most largely in China, Korea, and Kwantung.

NANKEEN.

From 1895 to 1901 the goods now classed as "imitation nankeen" constituted the largest part of the cotton-goods exports from Japan, and with it the Japanese succeeded in displacing the Chinese nankeen in the Korean market. In 1900 the exports were 3,072,033 pieces, but as the exports of sheeting, T cloth, and drills increased nankeen was largely relegated to the background and exports declined until they were only 813,110 pieces in 1903. Later they increased, with fluctuations, and in 1912 the exports rose to the record of 5,192,671 pieces. Japanese nankeen was then in demand in Manchuria because the Chinese supply was curtailed by the disturbances of the "second revolution." The markets for this cloth are Manchuria and Korea, with a small demand from North China.

Nankeen is nearly always dyed before use, as white is the color of mourning in China and Korea as well as Japan. When in Manchuria in the fall of 1906 I called attention to the high cost of dyeing by the primitive native style and to the fact that Japanese agents were also investigating this. In that year the Japanese customs first listed "dyed nankeen," but the Japanese have not been able to get the colors required (mainly various shades of blue) exactly to suit the Manchu, and, besides their natural conservatism, the Manchus prefer to buy cloth before it is dyed, as they can then better judge the quality. Hence, the Japanese exports in this line have not developed as expected.

TOWELS AND OTHER GOODS.

The Turkish and honeycomb or huckaback towels made in Japan in imitation of the foreign are mostly of an inferior quality, but on account of their cheapness they are in demand. The trade in towels has developed until it is exceeded in value only by sheetings, twills, and nankeens. The shipments of Turkish towels, like those of crape, are widely distributed. The main markets now are China, Hongkong, British India, Kwantung, Straits Settlements, and Korea, with smaller shipments to Australia, Dutch East Indies, Indo-China, Siam, and other countries.

With other piece goods the Japanese have had little success, though in counterpanes, which have been listed only since 1911, there is a fair demand from China. In 1912 the exports of Turkey-red cambrics advanced, owing to a somewhat better demand in China, Korea, and Hongkong. The exports of cotton blankets, narrow Japanese towel-ing in the piece, cotton handkerchiefs, cloth made of gassed yarn, cotton satins, etc., have all declined from what they were just after the Russian War.

All in all, the Japanese weaving mills are dependent on the shipment of grey sheeting and drills to China to enable them to continue

their present rate of dividends, and their competition in that market will be keener in the future, especially as the quality of their cloth is now much better than it was when they entered the field just after the Russian War. All other exports are now only supplementary, and as the home market is still largely supplied by the hand looms, the cotton-weaving mills have to increase their shipments to China or stop their development.

PRESENT STATUS OF INDUSTRY.

On June 30, 1913, only 16 of the Japanese cotton mills contained looms, a list of which is given on page 54. All these looms are in weave sheds attached to spinning mills. A few power looms are operated here and there throughout Japan in small establishments, some being run in connection with hand looms, but there are no statistics as to these.

Though the weave sheds are operated by the same company, their accounts are kept separate from those of the spinning mill in order to show the consumption of yarn, wages, etc. The following statistics, compiled by the Japan Cotton Spinners' Association, show the status of the power-loom industry in the cotton mills for the last 10 years:

Half years.	Looms used.	Average annual working days.	Average daily working hours.	Cloth woven.	Average per loom per day.	Yarn consumed.	Waste made.
1903:				<i>Yards.</i>	<i>Yards.</i>	<i>Pounds.</i>	<i>Pounds.</i>
First.....	4,992	157.0	13.00	37,978,431	48.40	10,420,228	189,896
Second.....	4,933	150.7	11.90	37,040,197	41.68	10,351,117	203,519
1904:							
First.....	5,034	150.6	12.10	40,842,338	43.44	11,861,081	357,818
Second.....	4,747	163.6	14.40	40,105,010	44.41	12,981,203	358,154
1905:							
First.....	5,711	153.5	14.30	52,345,742	50.09	16,950,474	602,798
Second.....	7,128	155.5	14.00	62,562,390	46.06	19,594,572	676,533
1906:							
First.....	8,121	139.5	13.30	{ 71,168,497 a 32,784	{ 46.70 a 4.00	}20,136,711	737,428
Second.....	8,860	154.2	13.20	{ 66,064,918 a 62,401	{ 42.62 a 4.12		
1907:							
First.....	9,191	156.5	13.55	{ 71,302,298 a 40,172	{ 47.47 a 3.48	}22,634,385	869,974
Second.....	9,299	148.6	13.39	{ 63,950,731	{ 45.02		
1908:							
First.....	9,295	154.7	13.54	73,939,315	48.19	23,400,814	1,024,386
Second.....	9,696	162.2	13.00	73,504,523	47.83	24,275,613	1,019,112
1909:							
First.....	11,019	160.2	13.48	91,032,776	52.39	28,606,124	1,288,558
Second.....	12,150	157.4	13.49	90,944,196	48.23	28,782,462	1,286,656
1910:							
First.....	13,988	143.0	14.20	105,784,012	49.06	33,555,993	1,209,845
Second.....	15,833	150.1	14.00	120,529,946	47.42	37,641,661	1,130,315
1911:							
First.....	17,484	149.8	14.28	141,300,607	51.81	40,667,296	1,269,229
Second.....	18,284	159.4	14.28	147,739,064	50.34	41,825,840	1,324,316
1912:							
First.....	19,781	157.8	13.40	165,330,835	53.50	44,306,918	1,224,941
Second.....	20,635	160.5	13.04	177,253,849	54.58	49,285,803	1,367,478
1913: First.....	22,975	153.8	13.19	204,655,996	55.28	54,338,034	1,519,204

a Dozen pieces.

In the table on page 117 has been shown the number of looms at the end of each year, but the number has been continually increasing, and the above figures are only for the average number of looms in actual use. The number of days worked by the weaving mills varied from 293.1 days in 1910 to 328.3 in 1912, with an average for the 10 years 1903 to 1912, inclusive, of 309½. Part of the weave mills work an 11-hour day and part a 12-hour day; that the average hours worked is usually more than this is due to the fact that two or three work also at night. If the yards of cloth woven during the first half of 1913 be divided by the average number of looms in operation for this period and then by the days, it will be found that the average yards per loom per day works out at 52.25, while the average above given is 55.28. The latter figure, it is explained, is an average of the monthly averages, which, as the looms operated continually increases, is probably a more accurate method.

From 1903 to 1912 the cloth production and the yarn consumption both increased fivefold. The cloth production in 1903 was 75,018,628 yards and 342,584,684 yards in 1912. The yarn consumption in 1913 was 20,771,345 pounds and 93,592,721 pounds in 1912. The waste made in the weave sheds was 393,415 pounds in 1903 and 2,592,419 pounds in 1912.

TOTAL OUTPUT OF INDIVIDUAL MILLS IN 1913.

The yarn consumption, cloth production, etc., in detail for the first half of 1913 are shown by the statistics of the Japan Cotton Spinners' Association, as follows:

Companies.	Looms used.	Working days.	Daily working hours.	Cloth woven.	Average per loom per day.	Yarn consumed.	Waste made.
				<i>Yards.</i>	<i>Yards.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Miye.....	5,298	154.2	12.35	53,581,580	65.60	13,869,569	206,801
Osaka.....	4,554	156.0	12.00	40,285,025	56.59	11,307,956	372,541
Kanegafuchi.....	4,331	155.5	11.30	37,783,464	56.07	10,558,352	369,542
Amagasaki.....	1,637	163.5	12.00	10,754,666	39.65	1,887,744	47,145
Wakayama.....	752	162.0	12.00	8,034,878	65.92	2,690,958	87,240
Naigai Wata, No. 1.....	352	151.0	13.00	3,320,881	62.54	440,136	7,871
Naigai Wata, No. 2.....	577	155.0	12.00	4,296,722	48.57	1,255,355	21,160
Temma Orimono.....	728	161.0	15.00	7,864,755	67.02	2,462,454	18,250
Tokyo.....	877	156.0	12.50	6,802,761	50.15	1,998,410	127,255
Tokyo Calico.....	587	165.8	23.22	5,680,952	58.37	1,359,048	82,010
Fuji Gas.....	777	155.0	11.40	5,674,455	46.73	1,611,991	60,418
Sakai.....	668	165.0	11.00	4,473,379	37.94	1,007,812	36,515
Osaka Godo.....	400	165.0	16.00	4,284,000	65.17	1,146,650	14,420
Osaka Orimono.....	400	155.0	11.00	3,658,320	58.78	787,693	2,904
Ki-Yo Skohufu.....	300	161.0	11.00	3,495,240	72.36	892,599	22,066
Nippon Seifu.....	433	150.0	11.00	2,876,760	44.18	706,005	36,700
Owada.....	304	83.5	24.00	1,788,158	44.19	355,302	6,366
Total.....	22,975	153.8	13.19	204,655,996	55.28	54,338,034	1,519,204

NUMBER OF OPERATIVES AND DAILY WAGES.

The operatives and wages during this first half of 1913 were as follows:

Companies.	Average daily operatives.			Average daily wages.	
	Males.	Females.	Total.	Males.	Females.
				<i>Sen.</i>	<i>Sen.</i>
Miye.....	727	4,318	5,045	54.2	34.3
Osaka.....	596	4,010	4,606	66.3	35.9
Kanegafuchi.....	624	4,642	5,266	54.7	35.7
Amagasaki.....	130	1,244	1,374	53.5	38.7
Wakayama.....	100	951	1,051	56.2	35.6
Naigai Wata, No. 1.....	30	241	271	44.0	34.2
Naigai Wata, No. 2.....	58	260	318	48.4	38.2
Temma Orimono.....	184	894	1,078	46.9	31.4
Tokyo.....	157	801	958	42.7	34.9
Tokyo Calico.....	122	1,611	1,733	64.4	39.5
Fuji Gas.....	125	664	789	54.2	36.1
Sakai.....	59	583	642	45.7	23.5
Osaka Godo.....	69	385	454	48.6	34.7
Osaka Orimono.....	165	581	746	60.4	39.1
Ki-Yo Skohufu.....	23	234	257	43.1	39.1
Nippon Seifu.....	31	366	397	52.5	35.9
Owada.....	64	249	313	62.4	41.0
Total.....	3,264	22,034	25,298	52.8	35.8

NATURE OF OUTPUT OF DIFFERENT MILLS.

The Miye, Osaka, and Kanegafuchi account for about two-thirds of the total production. Of the 53,581,580 yards of cloth woven by the Miye during the first half of the year, 19,463,450 yards were sheeting and 778,005 light sheeting, 13,849,258 yards drill, 9,957,904 yards T cloth, 3,517,207 yards 44/45-inch shirting, 3,260,328 yards 30-inch shirting, 815,328 yards ordinary 37-inch shirting, 1,715,875 yards calico, and 224,225 yards flannel.

Of the 40,285,025 yards of cloth woven by the Osaka, 15,185,071 yards were drill, 10,826,140 yards sheeting, 5,813,186 yards 44-inch shirting, 4,069,080 yards flannel, 2,234,061 yards 37-inch shirting, 1,822,852 yards T cloth, and 334,635 yards 30-inch shirting.

Of the 37,783,464 yards of cloth woven by the Kanegafuchi, 23,480,848 yards were sheeting, 7,196,426 yards 30-inch shirting, 3,793,404 yards 44-inch shirting, 2,387,252 yards flannel, and 925,534 yards drill.

Of the 10,754,666 yards of cloth woven by the Amagasaki, 6,952,268 yards were 44-inch shirting, 3,354,720 yards 30-inch shirting, and 447,678 yards 37-inch shirting.

Of the other mills the Wakayama made 7,430,176 yards of flannel, with small amounts of sheeting, shirting, kokura (corded cloth), T cloth, and bed sheets. The Naiga Wata, in its two sections, made mainly nankeen and sheeting, with some T cloth. The Temma Orimono made 4,198,861 yards of drill, 1,854,086 yards of sheeting, and 1,811,808 yards of 37-inch shirting. The Tokyo made sheeting, T cloth, and drill, with a small amount of shirting. The Fuji Gas made 3,064,994 yards of twilled shirting and 1,617,175 yards of drill, with smaller amounts of sheeting, shirting, and calico. The Sakai

made 3,646,041 yards of nankeen, with small amounts of sheeting, shirting, and calico. The Osaka Godo made only flannel and sheeting, 3,245,600 yards of the former and 1,038,400 yards of the latter. The Osaka Orimono made cotton crape only. The Ki-Yo Shokufu made 3,366,333 yards of flannel, with small amounts of drill, sheeting, and nankeen. The Owada made "o shaku nuno," or long lengths of narrow cloth only.

EXPORTS OF MILL PRODUCTS IN 1912.

These figures are for the first half of 1913 only. To compare the exports with the mill production it will be necessary to take the year 1912, as this is the latest for which complete figures are available. For 1912 the customs record the exports of cotton piece goods from Japan (excluding the associated fabrics of cotton blankets, towels, and handkerchiefs, which are made outside of the regular cotton mills) as follows:

Classification.	Quantity.
Kanakin and sheeting (grey shirting and sheeting).....yards..	87,097,682
Sarashi kanakin and sheeting (white shirting and sheeting).....do..	1,634,140
Hi kanakin (turkey-red cambrics).....do..	670,441
Gasituri (tissues of gassed yarns).....pieces..	21,400
Tenjiku (T cloth).....yards..	7,584,517
Aya momen (twilled tissues).....do..	42,097,779
Men shusu (cotton satins).....do..	38,495
Shiro momen (imitation nankeen).....pieces..	5,192,671
Iro momen (dyed imitation nankeen).....do..	351,657
Tenuguiji (Japanese toweling).....do..	442,298
Kasuri momen (spotted tissues).....do..	79,180
Shima momen (striped tissues).....do..	374,449
Franneru (cotton flannel).....yards..	9,649,935
Men chijimi (cotton crape).....do..	10,230,461
Men ho fu (cotton duck).....do..	483,857
Hijokufu (counterpanes).....dozen..	81,694
Kachoji (mosquito netting).....pieces..	1,227
All other cotton tissues.....do..	421,483

OUTPUT OF MILLS IN 1912.

The Japan Cotton Spinners' Association records the total cotton-mill production in 1912 as follows, the classification differing somewhat from that of the customs:

Classification.	Yards.	Classification.	Yards.
Sofu (sheeting).....	135,092,677	Aya momen usu ori (light drill).....	272,021
Usuji sofufu (light sheeting).....	1,550,874	Kohaba shiro momen (narrow nankeen).....	11,556,960
Namihaba kanakin (original-width shirting).....	3,786,415	Atsuori momen (thick nankeen).....	4,743,608
Futahaba kanakin (double-width shirting).....	36,290,291	Men neru, kiji (cotton flannel, unnapped).....	36,068,476
Mihaba kanakin (triple-width shirting).....	27,140,314	Men chijimi (cotton crape).....	6,159,978
Cariko (calico).....	13,811,248	Kokura (corded cloth).....	262,237
Tenjiku (T cloth).....	24,298,566	Kona bukuro ji (flour-bag cloth).....	450,178
Aya momen (drill).....	31,980,818	Shikifugi (bed sheets).....	2,890
Aya momen kata aya (twilled shirting).....	8,670,834	Zofu (various).....	2,209
Aya momen unsai (thick drill).....	413,905	Total.....	342,584,684
Aya momen Katsuragi ori (Katsuragi weaving or drill).....	30,185		

COMPARISON OF OUTPUT AND EXPORTS.

For 1912 the association figures show a total production of 217,671,819 yards of cloth that can be classed under the general term of sheeting and shirting (including sofū, usuji sofū, namihaba kanakin, futahaba kanakin, mihaba kanakin, and cariko). For the same year the customs record exports of grey and white sheeting and shirting and Turkey-red cambrics amounting to 89,402,263 yards, which would show that over 40 per cent of the production in this line is exported. This does not include the exports of gassed-yarn tissues, which would increase the percentage slightly.

Of tenjiku, or T cloth, the production amounted to 24,298,566 yards and the exports to 7,584,517 yards, or over 30 per cent.

Of twilled tissues and cotton satins the customs record exports of 42,136,274 yards, while the cotton mills show a production of only 41,367,763 yards. The discrepancy is probably due to stocks carried over from the previous year, and goes to show that the drills, jeans, and twilled shirtings made in Japanese cotton mills are almost entirely for export. There is only a small production on the hand looms, as they make principally plain cloth, either of single yarn or, if greater strength and wearing qualities are required, of doubled yarn.

For 1912 the cotton mills show a production of 16,300,568 yards of nankeen. The customs record exports of 5,544,328 pieces of dyed and undyed nankeen. These nankeens, under the name of shiro momen, or white cloth, are usually sold in Japan in 26 or 30 shaku lengths, which is the amount of material required for a kimono for a man or a woman, respectively, but they are woven in double-length pieces and exported chiefly in this form. Averaging the length per piece at 54 shaku, or 22.375 yards, the exports of 5,544,328 pieces amounted to some 124,000,000 yards. The cotton mills did not produce one-seventh of the nankeen exported, and this is mostly a hand-loom trade. China ships some nankeen by sea to Manchuria and a small amount to Korea, but Japan is about the only country in which the hand loom is so great a factor in both home and foreign trade.

In addition to dyed and undyed nankeen the customs record fairly large exports of Japanese toweling, kasuri, and striped goods. The Japanese toweling is really a hand-woven nankeen, and most of it is printed. Kasuri are narrow-woven goods made on the hand loom with yarns that have been dyed by tying them up with hemp strings so that certain portions are left undyed; the goods when woven show irregular white spots on a blue ground, hence the customs translate the term "kasuri" as "spotted tissues." The striped goods are also mostly made on hand looms. Altogether, the exports during 1912 of narrow goods woven on hand looms may be conservatively taken as over \$2,000,000.

The cotton mills during 1912 produced 36,068,476 yards of cotton flannel, and 9,649,935 yards, or over a fourth, were exported.

The exports of cotton crape are shown as 10,230,461 yards and the production in the cotton mills as 6,159,978 yards. Considering that part of the mill production is used at home, the mills account for only about half of the exports; the remainder is made in small power-loom establishments and on hand looms, chiefly the latter.

The production of kokura, or corded goods, is shown as 262,237 yards, and the exports of cotton duck as 483,857 yards. The exact meaning of kokura will be discussed later, but kokura includes only a small portion of the cotton duck exports. Most of the duck is made outside the cotton mills in small establishments and on hand looms.

TURKISH TOWELS.

In addition to the regular cotton piece goods the customs record for 1912 exports of 2,310,655 dozen towels, such as Turkish and honeycomb (these are entirely different from the narrow Japanese toweling noted above and also the Japanese towels made therefrom), 75,642 dozen cotton handkerchiefs, and cotton blankets weighing 258,368 kin, or 341,761 pounds. These are not made in the cotton mills, but in separate establishments, most of which are small. The Exporters Directory of Japan, 1913, published in English by the Commercial Museum (Tokyo) of the Department of Agriculture and Commerce, lists the principal manufacturers of such towels as follows:

Inaoka Shoten, Nishi Shikata-mura, Hyogo.
 Miye Towel Shokwai, Tomisuhara-mura, Miye.
 Mikawa Towel Goshi Kaisha, Okazaki-mura, Aichi.
 Naniwa Boshoku Kabushiki Kaisha, Minami-Tzakedzu-shinden, Osaka.
 Osaka Towel Goshi Kaisha, Enomoto-mura, Osaka.
 Toyo Towel Goshi Kaisha, Enomoto-mura, Osaka.

The largest amounts are produced in Osaka, followed by Hyogo, Aichi, and Miye prefectures.

COTTON HANDKERCHIEFS AND BLANKETS.

The cotton handkerchief exports are small (there are large exports of silk handkerchiefs, however), and they are produced mainly in Yokohama and Tokyo, with some at Kobe.

The principal manufacturers of cotton blankets are given as:

Tanaka Gomei Kaisha, Nogoya, Aichi.
 Kakegawa Menmofu Kabushiki Kaisha, Kakegawa, Shidzuoka.
 Ogawa Heisuke, Otsura-mura, Osaka.
 Nippon Keorimono Kabushiki Kaisha, Kobe.

Nagoya seems to be the principal center, and in that section there are several small waste mills that supply the required cotton-waste filling.

TRADE METHODS.

The principal company exporting cotton cloth from Japan is the Mitsui Bussan Kaisha. Its head office is in Tokyo, but most of its cloth export business is done through its Osaka branch. This company is a very large one and largely dominates the foreign trade of Japan in many lines. Besides its offices throughout Japan and Europe and America it has offices in Chemulpo, Seoul, Dalny, Newchwang, Mukden, Kwanchengtze, Tientsin, Chefoo, Hankow, Shanghai, Amoy, Hongkong, Manila, Singapore, and Bombay, with sub-agents at other points. Through these it is kept in touch with all variations in market conditions. It imports raw cotton and cotton-

mill machinery and exports cotton yarn, cotton cloth, knit goods, etc., and is in close touch with all branches of the cotton industry of Japan.

Besides the Mitsui there are several other firms that export cloth, such as the Nippon Menkwa Kaisha (which trades in Manchuria, etc., under the name of Nisshin Yoko), Chubei Itoh & Co., of Osaka and Kobe, T. Yuasa Shoten, of Kobe, and others. Most of them have agencies in China, India, etc., through whom they do business. None of these companies compares in size, however, with the Mitsui. Little or no commission business seems to be done in the cotton yarn and cloth export trade of Japan. The exporters as a rule buy outright from the mills, some buying on fixed orders and others taking a mill's whole output for a certain period, and then making their own profit on the exports. The mills themselves do not as a rule try to export, as they have not the necessary connections abroad; dealers state that the few that have at times made such attempts have not been very successful. The Osaka Boseki has an office at Tientsin, and has had some measure of success.

The principal steamship lines to China are the Nippon Yusen Kaisha and the Osaka Shosen Kaisha. The Mitsui ships largely by these lines, but also employs a good many chartered steamers for carrying coal, etc. Owing to its expanding business and to the higher rates charged for carriage it is now buying steamers to take the place of those chartered, and it will probably soon carry most of its exports of cloth as well as other articles in its own ships.

The freight rates on cotton piece goods to various points as furnished by the Nippon Yusen Kaisha at the end of 1913 were as follows:

Kobe to—		Rate.
		Yen.
Chemulpo.....	per 40 cubic feet..	4.40
Dalny.....	do.....	4.50
Newchwang.....	do.....	5.00
Tientsin.....	do.....	6.84
Shanghai.....	per ton..	5.00
Hongkong.....	do.....	3.50
Manila.....	do.....	6.50

The Mitsui Bussan Kaisha and the Nippon Menkwa Kaisha (Nisshin Yoko) get a 10 per cent rebate on the foregoing rates, while smaller rebates are given to some other exporters in proportion to the size of their export trade in this line.

ANALYSIS OF PRINCIPAL MILL CLOTHS.

SOFU, OR GREY SHEETING.

Grey sheeting is the principal article made in Japanese cotton mills. The standard sheeting is made with 44 ends of warp and 44 picks of weft to the square inch; the width is 36 inches, and the weight $13\frac{1}{2}$ pounds to the 40-yard piece. The Japanese follow the English custom of giving the weight in pounds per piece instead of in yards per pound.



METHOD OF BALING JAPANESE SHEETING FOR EXPORT.

The chops shown in the lower part of the illustration correspond to the bales above. The Nine Dragons brand, on the right, is the leading sheeting of the Kanegafuchi mill.

KIU RIU BRAND.

The leading export trade-mark, or chop, is the "Kiu Riu," or "Nine Dragons," brand of the Kanegafuchi Boseki Kabushiki Kaisha, or Kanegafuchi Spinning Co. (Ltd.). The head end of each piece is stamped in blue. At the top are three Japanese characters (which are the same as the Chinese), translated as "Dzu Kiu Riu" or "Brand, Nine Dragons." Below this is the brand of nine dragons in a circle, then in English lettering "Superior Sheeting," "Kanegafuchi Spinning & Weaving Mills," and at the bottom in an ellipse "40 Yds." All the Japanese sheetings are sold as nominal 36-inch goods, but the Kanegafuchi makes a point of having its cloth a little wider, as this helps the sale, and the sheetings actually measure about $36\frac{3}{8}$ inches.

The length of each pick was found by unraveling to have been about $38\frac{1}{2}$ inches, which was therefore the width of warp in reed. By actual count there were found 1,644 ends in the warp, including 32 selvage ends. Each selvage was about $\frac{1}{8}$ inch wide and consisted of 16 ends drawn in 2 to a heddle and 4 to a dent. The weft weighed as No. 16. The warp as it came from the piece weighed about No. 10, but after being washed and scoured to remove the sizing it appears to be No. 13. Then in a linear yard the warp equals $\frac{1,644}{13 \times 840}$ or 0.1496 pound and the weft equals $\frac{44 \times 36 \times 38\frac{1}{2}}{16 \times 840 \times 36}$ or 0.1260 pound. The total yarn content of a linear yard is therefore 0.2756 pound and this subtracted from 0.3333 shows 0.0577 pound of sizing. This is equal to about 17 per cent of the weight of the cloth as sold and, allowing for some being shaken off in weaving, probably 36 per cent of sizing applied to the warp.

This is the best sheeting made in Japan, the one that brings the highest price and is recognized as the leader. The standard American sheeting is 36 inches wide, 3 yards to the pound, and is made with 48 ends of No. 13 warp and 48 picks of No. 14 weft to the square inch. The total number of ends in the warp is 1,744 and the width of the warp in reed, 38 inches. Hence, in a linear yard the warp equals $\frac{1,744}{13 \times 840}$ or 0.1597 pound, and the weft equals $\frac{48 \times 36 \times 38}{14 \times 840 \times 36}$ or 0.1551 pound. The total yarn content of a linear yard is therefore 0.3148 pound and this subtracted from 0.3333 shows only 0.0185 pound of sizing. This is equal to about $5\frac{1}{2}$ per cent of the weight of cloth as sold, or about $12\frac{1}{2}$ per cent of sizing applied to the warp.

The yarns in the American sheeting are made of a good grade of American Upland cotton, strict middling being largely used. The warp yarn in Japanese sheeting is mainly Indian Broach cotton, with possibly an eighth of American, while the weft is usually about three-fourths Indian and a fourth Chinese, the mixtures varying at different mills and also at different times according to the relative prices.

The above comparison shows that in competing on the Manchurian and Chinese markets with similar weights of American sheetings the Japanese mills do not consider the low wages and the night and day work that obtain in Japan sufficient. In addition to much lower-

grade cottons they use less cotton, especially economizing by using a lighter weft and fewer picks to the inch, and fill up the weight to the required amount by the addition of a large amount of sizing. With these advantages in their favor they have a great leverage for displacing American goods on a market where cheapness has been more of a factor than quality.

On January 6, 1914, the "Nine Dragons" chop of 3-yard sheeting was selling on the Osaka market wholesale for 4.76 yen (\$2.37) per piece of 40 yards, which is 5.93 cents a yard. The dealers do not sell on commission, but buy outright from the mills, and the price received by the mills was slightly less. This price was for export and therefore does not include the 10 per cent textile consumption tax that dealers have to pay the Government upon taking delivery for the home trade. Including this tax the price quoted by the dealers to their retail customers in Japan for the same sheeting was 5.125 yen (\$2.552) per piece, or 6.38 cents a yard. Both prices were net, for delivery at Osaka.

OTHER BRANDS.

The "So Riu," or "Two Dragons," and the "Sankaku Cho," or "Butterfly in Triangle," chops of the Kanegafuchi each count 1,644 ends in the warp, finish about $36\frac{3}{8}$ inches wide, are made with 44 picks to the inch, and are apparently the same in all particulars, including yarn counts, as the "Nine Dragons" chop of this mill, all being 3-yard goods. As against the 4.76 yen per piece for the "Nine Dragons" these two were quoted at 4.70 yen per piece for export. This difference of about one-sixteenth of a cent per yard appears to be due to the somewhat better reputation of the "Nine Dragons," the three chops being made in different mills of the same company.

The wholesale price for export of the "Riu C," or "Dragon C," chop of the Miye Boseki was 4.725 yen (\$2.353) per piece, or 5.88 cents per yard. The dealers give the weight as $13\frac{1}{2}$ pounds to the 40-yard piece, which would make them about 2.96 yards to the pound. They finish 36 inches wide, are made 44 by 44, and apparently about No. $12\frac{1}{2}$ warp and No. 16 weft, there being by actual count 1,624 ends in the warp. The wholesale price for the home trade, with the textile consumption tax paid, was 5.075 yen (\$2.527) per piece, or 6.32 cents per yard.

The "So Ro," or "Two Donkeys," chop of the Naigai Wata Boseki is 36 inches wide, is made with 42 ends of No. $13\frac{1}{2}$ warp and 43 picks of No. 15 weft to the square inch and weighs $13\frac{5}{8}$ pounds to the piece, making it about 2.94 yards to the pound. The wholesale price for export was 4.70 yen (\$2.341) per piece, or 5.85 cents per yard, while the wholesale price for the home trade, with the textile consumption tax paid, was 5.05 yen (\$2.515) per piece, or 6.29 cents a yard.

The "Maru Tori," or "Rooster in Circle," chop of the Osaka Boseki weighs 14 pounds to the 40-yard piece and is therefore a 2.85-yard sheeting. It is made with 1,616 ends in the warp, of which 8 ends are used in each selvage and drawn in 2 to a heddle and 4 to a dent. There are 42 picks to the inch. The finished width is 36 inches and width of warp in reed is apparently 38 inches. The weft is No. 15 and the warp apparently No. 13. The wholesale price for export was 4.725 yen (\$2.353) per piece, or 5.88 cents per yard, while the whole-

sale price for the home trade, with the textile consumption tax paid, was 5.075 yen (\$2.527) per piece, or 6.32 cents per yard.

The six sheeting chops above mentioned are the ones regularly quoted for export by the dealers, and the three mills making them—the Kanegafuchi, Miye, and Osaka—hold most of the trade in this line. The Tokyo Boseki makes a “Flower and Bird” chop sheeting in 36-inch width, 44 by 38 construction, and the Osaka Godo Boseki makes a regular 36-inch, 44 by 44, etc., but the sheetings from these other mills constitute a small proportion of the total.

COMPARATIVE PRICES OF COTTON YARN AND CLOTH.

The wholesale cloth prices above quoted are for January 6, 1914. For the same date there have been shown, on page 80, the wholesale prices of yarns. Below are given the prices of raw cotton during the first week in January, 1914, as furnished by the Japan Cotton Merchants' Union (of Wakamatsu-cho, Kitaku Osaka, Japan); these are spot prices in Osaka:

Kinds.	Yen per 100 kin.	Cents per pound.
American:		
Good.....	41.50-40.75	15.50-15.22
Fully.....	39.50-39.00	14.75-14.57
Middling.....	38.75-38.00	14.47-14.19
Indian:		
Broach.....	33.00-32.50	12.33-12.14
Hinganghat.....	30.75-30.50	11.49-11.39
Yeotomal.....	29.00-28.75	10.83-10.59
Akola.....	28.00-27.75	10.46-10.36
Bengal.....	25.50-25.25	9.52- 9.43
Chinese:		
Tsushu (Tungchow).....	31.50-31.25	11.77-11.67
Hokushi (north market, Shanghai).....	30.50-30.25	11.39-11.30
Hankow.....	29.25-29.00	10.92-10.83

The high price of American cotton at the mills in Japan makes it to their interest in normal times to use as little as possible and to depend on the relatively cheaper Indian and Chinese cottons.

During the first week in January the highest and lowest “spot” prices of American good middling, strict middling, and middling Uplands on the New York market were as follows: Good middling, 13.25 and 12.95 cents; strict middling, 12.92 and 12.62 cents; middling, 12.60 and 12.30 cents. These prices, as compared with those for similar grades of American Uplands in Osaka on the same date, are from 1.83 to 2.27 cents a pound lower.

As shown in the tables of production and export given on page 143 the Japanese manufacturers and dealers usually call grey sheeting “sofu,” which is literally “rough cloth.” The customs, however, write out “sheeting” in letters of the Japanese alphabet. This Japanese alphabet consists of 46 letters that look like shorthand and it is used largely to express words for which no Japanese characters are available owing to the article being of recent foreign origin.

AYA MOMEN, OR DRILL.

Of some eight drills regularly quoted for export by the Osaka dealers the “Riu,” or “Dragon,” chop of the Miye Boseki is quoted the highest and heads the list; next to this come drills made by the

Osaka Boseki. The production of drills in Japan is growing rapidly, owing mainly to the increased output of the Osaka and the Miye, which supply most of this trade. The drills are made in 40-yard cuts and are nominally 30 inches wide, but some makes are a quarter or a half inch under or over this standard.

RIU BRAND.

The "Riu," or "Dragon," drill of the Miye Boseki has on its head end in blue, first a representation of a dragon's head, then in English lettering "Miye Cotton Mills," and then "40 yds." This is a 2.85-yard drill, the weight being given as 14 pounds per 40-yard piece. It actually measures about $29\frac{3}{4}$ inches in width and by actual count contains 2,214 ends in the warp. It is three-harness and therefore no special selvage is needed. It was made with 72 warp ends to the inch and the width of warp in reed was about $30\frac{3}{4}$ inches. The warp is apparently No. 13, while the weft is No. 16. It is woven with 48 picks to the inch. The finished cloth, owing to contraction, counts about $74\frac{1}{2}$ by 48 ends to the square inch. With the particulars given the sizing would amount to 10.7 per cent on the finished cloth or about 20 per cent, allowing for loss in weaving, on the warp. The drills are not sized so heavily as the sheetings. This drill has a large sale in Manchuria and other parts of China.

On January 6, 1914, this "Dragon" chop of 2.85-yard drill was selling on the Osaka market wholesale for export at 5.80 yen (\$2.888) per piece of 40 yards, or 7.22 cents per yard. The wholesale price to the home trade, including the textile consumption tax, was 6.18 yen (\$3.078) per piece, or 7.7 cents per yard.

OTHER BRANDS.

The "Komori," or "Bats," chop of the Osaka Boseki is given as weighing $13\frac{1}{2}$ pounds to the piece, so that it is a 2.96-yard drill. It actually measures about $30\frac{1}{4}$ inches wide and counts 75 by 46, showing that it was constructed 72 by 46. The price for export was 5.60 yen (\$2.789) per piece, or 6.97 cents per yard, and for the home trade 5.97 yen (\$2.973) per piece, or 7.43 cents per yard.

The "Ritaihaku" (the name of a Chinese saint that is represented in the brand) drill of the Osaka Boseki is also a $13\frac{1}{2}$ -pound, or 2.96-yard, drill. It measures 30 inches wide and counts 72 by 48, being constructed 70 by 48. The price for export was 5.60 yen (\$2.789) per piece, or 6.97 cents per yard, and for the home trade 5.97 yen (\$2.973) per piece, or 7.43 cents per yard.

The three drills above mentioned constitute one class of exports; the other drills are of a coarser construction.

The "Zo," or "Elephant," drill of the Osaka Boseki actually measures about $29\frac{3}{4}$ inches in width and by actual count has 1,845 ends total in the warp. The width in reed was about $30\frac{3}{4}$ inches. It was constructed 60 by 40 ends per square inch and finishes about 62 by 40. The yarns were apparently No. 12 warp and No. 15 weft. This is a 3-yard drill, weighing $13\frac{1}{2}$ pounds to the 40 yards. The wholesale price for export was 5.05 yen (\$2.515) per piece, or 6.29 cents per yard, and for the home trade 5.40 yen (\$2.689), or 6.72 cents per yard.

The "Hōō," or "Phoenix," drill of the Fuji Gas Boseki actually measures about $30\frac{1}{2}$ inches wide and counts about 63 by 42, probably being made 60 by 42. It is a 3-yard drill. The wholesale price for export was 5.075 yen (\$2.527) per piece, or 6.32 cents per yard free of tax, and for the home trade, including the textile consumption tax, 5.40 yen (\$2.689) per piece, or 6.72 cents per yard.

The "Shibakuki" chop is the second quality of the "Phoenix" drill of the Fuji. The chop shows a Japanese plant in a pot, the name of the plant being "Shibakukei," sometimes commonly called "Reishi"; hence the drill is called by either name. This second quality was selling at 6.16 cents per yard for export, and 6.6 cents a yard for the home trade. This shows 16 cents per piece difference between export and home prices for the first quality and 17.6 cents per piece difference for the second quality.

The "Gacho," or "Geese," chop of the Miye Boseki shows a pair of geese in blue. This is a 3-yard drill and actually measures about $30\frac{1}{4}$ inches wide. It is constructed 60 by 40 and finishes about 62 by 40. The wholesale price for export was 5 yen (\$2.49) per piece, or 6.23 cents per yard, while the wholesale price to the home trade was 5.30 yen (\$2.639), or 6.6 cents per yard. This drill has a large sale in Manchuria and North China.

The "Shishi," or "Lion," chop of the Osaka is a 3.20-yard drill weighing $12\frac{1}{2}$ pounds to the 40-yard piece. It actually measures $29\frac{3}{4}$ inches in width and is constructed 60 by 36, finishing 62 by 36. The wholesale price for export was 4.90 yen (\$2.440) per piece, or 6.10 cents per yard, while the wholesale price to the home trade was 5.25 yen (\$2.613) per piece, or 6.53 cents per yard.

OTHER TWILLED FABRICS.

"Aya" means twill and "momen" cloth, hence the customs use the term "aya momen" in its general sense to cover all twilled fabrics. Among the mills and dealers, however, "aya momen" is used specifically for ordinary drills; jeans are either spelled out in letters of the Japanese alphabet or called "ozu aya" (fine drill); twilled shirting is known as "kata aya," which is literally "one-side twill"; while "unsai" is a thick twill. Unsai, it may be noted, is most largely used for making the soles of Japanese cloth socks. Comparatively few Japanese wear ordinary socks and shoes. Most of them wear cloth socks coming to the ankles only and made with a division for the big toe; the two cords of the wooden clogs are held between the big toe and the next one and pass over and are fastened at the middle of the clog on each side. When Japanese enter the home or office the clogs are left at the door and only the socks are worn. The cheaper grades of these socks are made of handwoven nankeen with an unsai sole, while the finer grades are of gassed shirting or similar material, lined with cotton flannel, and soled with unsai. The unsai is a 2-up-2-down twill, the twill effect showing on both sides of the cloth, and it is woven as a continuous twill or in herringbone twill effects. The warp is ply yarn, while each pick of weft consists of two single yarns that have been run together on the same bobbin.

TENJIKU, OR T CLOTH.

"Tenjiku" means "India," but is the word used in Japan for T cloth, probably because it was first introduced from that country or from that direction. T cloths are plain-woven goods and in England, where most of them are made, they are generally 32 inches wide, put up in 24-yard cuts, and with a few picks of colored yarns woven in at the end of each cut.

The T cloths made in Japan rarely have any colored head ends and are simply narrow grey sheetings. The length is always 24 yards, the same as the English, but the width is usually about 31 inches. The yarns used vary around 20s, and the weight varies from 5 up to $8\frac{1}{4}$ pounds per piece, say, 4.8 to 3 yards to the pound.

The "Botan," or "Peony," chop of the Miye Boseki shows a peony beside a lion's head. This cloth actually measures 31 inches in width and by actual count has 1,904 ends in the warp, of which 40 are taken by the selvages. Each selvaige contains 20 ends, drawn in 2 to a heddle and 4 to a dent. Each pick by unraveling seems to have been about $32\frac{1}{2}$ inches in length. The cloth was apparently constructed 58 by 52 and as sold counts about 61 by 52. The warp seems to be 18s and the weft 22s. It is sold as 6-pound tenjiku, which means 4 yards to the pound T cloth. On January 6, 1914, the wholesale price, net in Osaka, free of consumption tax, was 2.785 yen (\$1.387) per 24-yard piece, or 5.78 cents per yard. The wholesale price for the home trade, including the textile consumption tax, was 2.99 yen (\$1.489) per piece, or 6.2 cents per yard.

The "Kin Gio," or "Gold fish," chop of the Osaka Boseki measured actually $31\frac{1}{4}$ inches and by count contained 1,584 ends in the warp, of which 32 were taken by the selvages. Each selvaige contained 16 ends, drawn 2 to a heddle and 4 to a dent. The width of warp in reed was apparently $32\frac{3}{4}$ inches. The finished cloth counts about 50 by 43 per square inch and was probably constructed 48 by 44. The warp appears to be 19s and the weft 21s. It is sold as 5-pound goods, which means 4.8 yards to the pound. The wholesale price for export was 2.36 yen (\$1.175) per piece, or 4.9 cents per yard, while the wholesale price for the home trade was 2.50 yen (\$1.245) per piece, or 5.19 cents per yard.

KANAKIN, OR SHIRTING.

In Japan the usual term for shirting, including print cloth, is kanakin, but there are several kinds of plain-woven cloths classed under this general heading, mainly namihaba kanakin, futahaba kanakin, mihaba kanakin, and cariko.

NAMIHABA KANAKIN.

"Namihaba kanakin" means "original-width shirting." The English formerly shipped in large amounts of gray shirting about 38 inches wide, in constructions of 48 by 48 to 60 by 60, and in lengths of 38 yards. The Japanese have modeled their namihaba kanakin after these, but the width is more often 37 inches and the yarns are usually somewhat coarser than those originally employed; the length of some is 38 yards but some have the sheeting length of 40 yards.

FUTAHABA KANAKIN.

"Futahaba kanakin" means "double-width shirting" and refers to the fact that the nominal width of about 30 inches is about double the width of the 1-shaku cloths (1 shaku, cloth measure, is 14.913 inches) that come from the hand looms. The English formerly shipped in considerable gray cloth for printing that was $30\frac{1}{2}$ inches wide, 120 yards long, and about 7.85 yards to the pound, but very little is now imported. Similar cloth, used mainly for printing, made by the Japanese is also of about the same width and length and is mostly $16\frac{1}{2}$ pounds to the 120-yard cut, or 7.27 yards to the pound; some of it is 16-pound ($7\frac{1}{2}$ -yard) and $15\frac{1}{2}$ -pound ($7\frac{3}{4}$ -yard) or other weights.

The "Nasu," or "Eggplant," chop of futahaba kanakin as made by the Amagasaki Boseki is 120 yards long and weighs $16\frac{1}{2}$ pounds per piece. It actually measures $30\frac{3}{4}$ inches and the width in reed seems to have been about $31\frac{7}{8}$ inches. The cloth as sold counts 62 by 57 and it was probably constructed 60 by 58. The warp is apparently 30s and weft 42s. The wholesale price of this in Osaka, net, with the textile consumption tax paid, for the home trade was 10.45 yen (\$5.203), or 4.34 cents per yard.

The "Tsubame," or "Sparrow," chop of these print cloths made by the Miye Boseki is 120 yards long and weighs $16\frac{1}{2}$ pounds to the piece. It measures 31 inches wide. The cloth as sold counts 63 by 59 and was probably constructed 60 by 60. The warp is apparently 32s and the weft 42s. The wholesale price in Osaka, with the textile consumption tax paid, for the home trade was the same as the "Nasu," or 4.34 cents per yard.

MIHABA KANAKIN.

"Mihaba kanakin," or "triple-width shirting," is $44\frac{4}{5}$ inches wide, but gets its name from its being about three times as wide as the native 1-shaku hand-loom cloth. These goods as made in Japan are patterned after the English, which are 44 inches wide and 46 yards long. A few of the Japanese are made in 45-yard lengths. They run from $8\frac{1}{2}$ to 11 pounds per piece of 46 yards, say, 5.41 to 4.18 yards to the pound, and are mostly constructed of fine yarns.

The highest-priced mihaba kanakin on the market is the "gassed Sekirei" of the Kanegafuchi Boseki. This is a cambric made with gassed yarns and the brand shows two of the "wagtail" birds. It is about $44\frac{3}{4}$ inches wide, is constructed with 88 warp ends and 80 picks to the inch, and weighs 8 pounds per piece of 46 yards, or 5.75 yards to the pound. The wholesale price for the home trade, with the textile consumption tax paid, on January 6, 1914, was 8.05 yen (\$4.019) per piece, or 8.73 cents per yard.

The highest-priced shirting made of ordinary yarns (that is, not gassed) is the "Nasu," or "Eggplant," brand of the Amagasaki Boseki. This is $44\frac{1}{2}$ inches wide and the 46-yard cut weighs 9 pounds, making it 5.11 yards to the pound. It is made with 68 ends of 36s warp and 72 picks of 45s weft per square inch. This "cariko Nasu" was quoted by the dealers at 7.50 yen (\$3.735) per piece, or 8.12 cents per yard, with the textile consumption tax paid, for the home trade.

Next to this comes the "cariko Sekirei" (calico Wagtail chop) of the Kanegafuchi Boseki. This is a $44\frac{3}{4}$ -inch, 46-yard, 9-pound shirting. It is constructed with 88 ends of 57s warp and 80 picks of 46s weft to the square inch. It was being sold to the home trade, including textile consumption tax, at 5.65 yen (\$2.814) per piece, or 6.12 cents per yard. This cariko Sekirei brand is similar in its details to the gassed Sekirei, except that after gassing the yarns were lighter and the gassed cambric being smoother and silkier the price was much increased.

The "Kai Jo," or "Woman Diver," of the Amagasaki Boseki is a $44\frac{1}{2}$ -inch, 46-yard, 9-pound shirting that is woven 72 by 72 construction. The wholesale price to the home trade, with the textile consumption tax paid, was 5.63 yen (\$2.804) per piece, or 6.1 cents per yard.

The "Ori Hime," or "Weaving Lady," brand of the Osaka Boseki is $44\frac{3}{4}$ inches wide and a 46-yard cut weighs $9\frac{1}{2}$ pounds, making it 4.74 yards to the pound. It counts 60 by 57 and was probably constructed 58 by 58. The wholesale price for the home trade, including the textile consumption tax, was 5.45 yen (\$2.714) per piece, or 5.9 cents per yard.

The "Botan," or "Peony," brand of the Miye Boseki is $44\frac{1}{4}$ inches wide and a 46-yard cut weighs $9\frac{1}{2}$ pounds, making it 4.74-yard goods. It counts 62 by 53 and was probably constructed 60 by 54. The wholesale price to the home trade, including the textile consumption tax, was 5.425 yen (\$2.702) per piece, or 5.87 cents per yard.

The "Taka," or "Hawk," brand of the Osaka Boseki is $44\frac{1}{4}$ inches wide and in cuts of 45 yards. It weighs 8.7 pounds to the piece, or 5.17 yards to the pound. It counts 61 by 57 and was probably constructed 58 by 58. The wholesale price to the home trade, including the textile consumption tax, was 4.78 yen (\$2.380) per piece, or 5.29 cents per yard.

The "Aka Gacho," or "Red Geese," brand of the Miye shows a pair of geese in red, with "Manufactured by Miye Cotton Mill, Japan" and "45 yds," also in red. This is in 45-yard cuts and measures 44 inches wide. A cut weighs $8\frac{1}{2}$ pounds; making it 5.29 yards to the pound. It counts 55 by 53 and was probably constructed 54 by 54. The wholesale price to the home trade, January 6, 1914, including the textile consumption tax, was 4.70 yen (\$2.341) per piece, or 5.20 cents per yard.

CARIKO.

"Cariko" is more often seen as "sarashi cariko," and refers to white shirting. Sometimes the "mihaba kanakin" is called "mihaba cariko" to emphasize the distinction between the ordinary 44-inch shirtings and those made with gassed yarns. The "sarashi cariko," or white shirtings, are usually patterned after the English in widths of 35/36 inches and lengths of 50 yards; they are mostly 5 to 8 yards to the pound, with 30s to 40s warp and 30s to 45s weft.

"Cariko," or "kariko," is the Japanese imitation of "calico." It may be noted that there is no sound in the Japanese language equivalent to the letter "l," and they have to substitute the "r" sound. Thus, flannel is called "franneru" and the nearest they can get to muslin is "mosurin." On their European letterheads such words

may be spelled in the English way, such as "Miye Towel Shokwai," but the literal reading by a Japanese from such a heading in the native alphabet would always render "Miye Tower Shokwai." The Japanese language in this is curiously different from the Chinese, in which there is no "r" sound, the "l" sound being used instead.

WEEKLY CLOTH QUOTATIONS.

Following is a complete list of cloths as shown in the weekly quotation list for January 6, 1914, sent to trade customers by the wholesale firm of Yagi Shoten, of Osaka. The prices are net, with goods delivered in Osaka.

FOR EXPORT, FREE OF THE TEXTILE CONSUMPTION TAX.

SOFU, OR GREY SHEETING.

Mills.	Brands.	Width.	Con- struc- tion.	Length of piece.	Weight of piece.	Wholesale price.	
						Yen per piece.	Cents per yard.
		<i>Inches.</i>		<i>Yards.</i>	<i>Pounds.</i>		
Kanegafuchi....	Kiu Riu (nine dragons).....	36 $\frac{3}{8}$	44x44	40	13 $\frac{1}{2}$	4.760	5.93
Do.....	So Riu (two dragons).....	36 $\frac{3}{8}$	44x44	40	13 $\frac{1}{2}$	4.700	5.85
Do.....	Sankaku Cho (butterfly in triangle)..	36 $\frac{3}{8}$	44x44	40	13 $\frac{1}{2}$	4.700	5.85
Miye.....	Riu C (dragon C).....	36	44x44	40	13 $\frac{1}{2}$	4.725	5.88
Naigai Wata....	So Ro (two donkeys)	36	42x43	40	13 $\frac{5}{8}$	4.700	5.85
Osaka.....	Maru Tori (rooster in circle).....	36	44x42	40	14	4.725	5.88

AYA MOMEN, OR GREY DRILL.

Miye.....	Riu (dragon).....	29 $\frac{3}{4}$	72x48	40	14	5.800	7.22
Osaka.....	Komori (bats)	30 $\frac{1}{4}$	72x46	40	13 $\frac{1}{2}$	5.600	6.97
Do.....	Ritaihaku (Chinese saint).....	30	70x48	40	13 $\frac{1}{2}$	5.600	6.97
Do.....	Zo (elephant).....	29 $\frac{3}{4}$	60x40	40	13 $\frac{1}{2}$	5.050	6.29
Miye.....	Gacho (geese).....	30 $\frac{1}{4}$	60x40	40	13 $\frac{1}{2}$	5.000	6.23
Fuji.....	Hōō (phoenix).....	30 $\frac{1}{2}$	60x42	40	13 $\frac{1}{2}$	5.075	6.32
Do.....	Shibakuki (a plant) ^a	30 $\frac{1}{2}$	60x42	40	13 $\frac{1}{2}$	4.950	6.16
Osaka.....	Shishi (lion).....	29 $\frac{1}{4}$	60x36	40	12 $\frac{1}{2}$	4.900	6.10

TENJIKU, OR T CLOTH.

Miye.....	Botan (peony).....	31	58x52	24	6	2.785	5.78
Do.....	Gacho (geese).....	31	.....	24	5	2.360	4.90
Osaka.....	Kin Gio (gold fish).....	31	48x44	24	5	2.360	4.90

^a Shibakuki is the second quality of Hōō.

FOR HOME TRADE, DELIVERED AT OSAKA WITH TEXTILE CONSUMPTION TAX PAID.

SOFU, OR GREY SHEETING.

Mills.	Brands.	Width.	Length of piece.	Weight of piece.	Wholesale price.	
					Yen per piece.	Cents per yard.
		<i>Inches.</i>	<i>Yards.</i>	<i>Pounds.</i>		
Kanegafuchi.....	Kiu Riu (nine dragons).....	36 $\frac{3}{8}$	40	13 $\frac{1}{2}$	5.125	6.38
Do.....	So Riu (two dragons).....	36 $\frac{3}{8}$	40	13 $\frac{1}{2}$	5.000	6.23
Do.....	Samkaku Cho (butterfly in triangle)...	36 $\frac{3}{8}$	40	13 $\frac{1}{2}$	5.050	6.29
Miye.....	Riu C (dragon C).....	36	40	13 $\frac{1}{2}$	5.075	6.32
Naigai Wata....	So Ro (two donkeys).....	36	40	13 $\frac{5}{8}$	5.050	6.29
Osaka.....	Maru Tori (rooster in circle).....	36	40	14	5.075	6.32

FOR HOME TRADE, DELIVERED AT OSAKA WITH TEXTILE CONSUMPTION TAX PAID—
Continued.

AYA MOMEN, OR GREY DRILL.

Mills.	Brands.	Width.	Length. of piece.	Weight. of piece.	Wholesale price.	
					Yen per piece.	Cents per yard.
		<i>Inches.</i>	<i>Yards.</i>	<i>Pounds.</i>		
Miye.....	Riu (dragon).....	29 ³ / ₄	40	14	6.180	7.70
Osaka.....	Komori (bats).....	30 ¹ / ₄	40	13 ¹ / ₂	5.970	7.43
Do.....	Ritaihaku (Chinese saint).....	30	40	13 ¹ / ₂	5.970	7.43
Do.....	Zo (elephant).....	29 ³ / ₄	40	13 ¹ / ₄	5.400	6.72
Miye.....	Gacho (geese).....	30 ¹ / ₄	40	13 ¹ / ₃	5.300	6.60
Fuji.....	Hōō (phoenix).....	30 ¹ / ₂	40	13 ¹ / ₄	5.400	6.72
Do.....	Shibakuki (a plant).....	30 ¹ / ₂	40	13 ¹ / ₄	5.300	6.60
Osaka.....	Shishi (lion).....	29 ³ / ₄	40	12 ¹ / ₂	5.250	6.53
Do.....	Zo, nito (elephant, seconds) ^a	29 ³ / ₄	40	13 ¹ / ₃	5.200	6.47

TENJIKU, OR T CLOTH.

Naigai Wata.....	Hata Ichigo (flag, No. 1).....	31	24	8	3.650	7.57
Do.....	Kwammori (court hat).....	31	24	8 ¹ / ₄	3.600	7.47
Miye.....	Botan (peony).....	31	24	6	2.990	6.20
Do.....	Gacho (geese).....	31	24	5	2.500	5.19
Osaka.....	Kin Gio (goldfish).....	31	24	5	2.500	5.19
Private ^b	Samurai (old Japanese soldier).....	31	24	5	2.480	5.15
Do.....	Hikari (sun shining).....	31	24	.....	2.250	4.67

MIHABA KANAKIN, OR TRIPLE-WIDTH SHIRTING.

Kanegafuchi.....	Gassed Sekirei (wagtail).....	44 ³ / ₄	46	8	8.050	8.73
Amagasaki.....	Calico Nasu (eggplant).....	44 ¹ / ₂	46	9	7.500	8.12
Kanegafuchi.....	Calico Sekirei (wagtail) ^c	44 ³ / ₄	46	9	5.650	6.12
Amagasaki.....	Kai Jo (woman diver).....	44 ¹ / ₂	46	9	5.630	6.10
Kanegafuchi.....	Aka Sankaku (red triangle) ^d	44 ³ / ₄	46	9	5.600	6.06
Amagasaki.....	Dai A (great A).....	44 ¹ / ₂	46	11	5.520	5.98
Kanegafuchi.....	Chidori (plover).....	44 ³ / ₄	46	9 ¹ / ₂	5.550	6.01
Do.....	Awo Sankaku (blue triangle) ^e	44 ³ / ₄	46	9 ¹ / ₂	5.500	5.95
Osaka.....	Ori Hime (weaving lady).....	44 ³ / ₄	46	9 ¹ / ₂	5.450	5.90
Miye.....	Botan (peony).....	44 ¹ / ₄	46	9 ¹ / ₂	5.425	5.87
Osaka.....	Taka (hawk).....	44 ¹ / ₄	45	8.7	4.780	5.29
Miye.....	Aka Gacho (red geese).....	44	45	8 ¹ / ₂	4.700	5.20

FUTAHABA KANAKIN, OR DOUBLE-WIDTH SHIRTING.

Miye.....	Tsubame (sparrows).....	31	120	16 ¹ / ₂	10.450	4.34
Amagasaki.....	Nasu (eggplant).....	30 ³ / ₄	120	16 ¹ / ₂	10.450	4.34
Kanegafuchi.....	Chidori (plover).....	31 ¹ / ₄	120	16 ¹ / ₂	10.475	4.35
Osaka.....	Taka (hawk).....	30 ³ / ₄	120	16 ¹ / ₂	10.300	4.27
Kanegafuchi.....	Ebira Sen Ban (arrowholder No. 1000).....	31 ¹ / ₄	120	16	10.100	4.19
Miye.....	Kon Men (dark-blue mask).....	30 ³ / ₄	120	15 ¹ / ₂	10.000	4.15

^a Second quality of Zo.
^b "Private" means chops put on by the dealers, who may substitute similar cloth (usually seconds) bought of different mills.
^c Calico sekirei is the same as gassed sekirei with the exception that the yarns are not gassed and this makes the weight different.
^d Aka Sankaku is the second quality of calico sekirei.
^e Awo Sankaku is the second quality of chidori.

FOR HOME TRADE, DELIVERED AT OSAKA WITH TEXTILE CONSUMPTION TAX PAID—
Continued.

SARASHI TENJIKU, OR BLEACHED T CLOTH.

Mills.	Brands.	Length of piece. ^a	Wholesale price.	
			Yen per piece.	Cents per yard.
		<i>Yards.</i>		
Naigai Wata.....	Hata Ichigo (flag, No. 1).....	24	3.750	7.78
Do.....	Kwammori (court hat).....	24	3.700	7.68
Miye.....	Botan (peony).....	24	3.080	6.39
Osaka.....	Kin Gio (goldfish).....	24	2.600	5.40
Miye.....	Gacho (geese).....	24	2.600	5.40
Owada.....	Matoya (target and arrow).....	24	2.950	6.12
Private ^b	Samurai (old Japanese soldier).....	24	2.580	5.33
Do.....	Kikū (chrysanthemum).....	24	2.580	5.33
Do.....	Hikari (sun shining).....	24	2.350	4.88

SARASHI AYA MOMEN, OR WHITE DRILL.

Miye.....	Riu (dragon).....	40	6.650	8.27
Osaka.....	Komori (bats).....	40	6.500	8.09
Fuji.....	Hōō (phoenix).....	40	5.900	7.35
Osaka.....	Komori (bats) ^c	40	6.300	7.84
Fuji.....	Hōō (phoenix) ^c	40	5.650	7.03

SOME AYA MOMEN, OR DYED DRILL.

Miye.....	Riu (dragon) dyed—			
Do.....	Chakatsu (chocolate).....	40	6.650	8.27
Do.....	Ebicha (brown).....	40	6.700	8.34
	Murasaki (purple).....	40	6.700	8.34
Fuji.....	Hōō (phoenix) dyed—			
Do.....	Chakatsu (chocolate).....	40	5.900	7.35
Do.....	Ebicha (brown).....	40	5.950	7.41
Do.....	Murasaki (purple).....	40	5.950	7.41

^a The length stated is nominal because it varies after bleaching or dyeing.
^b “Private” means chops put on by the dealers, who may substitute similar cloth (usually seconds) bought of different mills.
^c Japanese native bleaching.

TIME TRANSACTIONS FOR JANUARY, FEBRUARY, AND MARCH.

Brands.	Nominal width.	Length of piece.	Wholesale price.	
			Yen per piece.	Cents per yard.
	<i>Inches.</i>	<i>Yards.</i>		
Nine Dragon sheeting, free of consumption tax.....	36	40	4.770	5.94
Dragon C sheeting, free of consumption tax.....	36	40	4.750	5.91
Dragon drill, free of consumption tax.....	30	40	5.750	7.16
Phoenix drill, free of consumption tax.....	30	40	5.050	6.29
Peony T cloth, with tax paid.....	30	24	2.980	6.18
Geese T cloth, free of consumption tax.....	30	24	2.325	4.82
Weaving Lady triple-width shirting, with tax paid.....	44	46	5.500	5.95
Hawk triple-width shirting, with tax paid.....	44	45	4.800	5.31
Eggplant double-width shirting, with tax paid.....	30½	120	10.475	4.35

There seems to be little commission business in either the cloth or yarn trade in Japan and the Yagi Shoten, like the others, buys from the mills and then sells on its own account, with a small amount added for profit and expenses, either for home or foreign trade. Grey sheeting, grey drill, and T cloth are quoted for both home and foreign trade, while the other cloths were quoted only for the home trade. However, a small amount of some other cloths is exported, but it is such a small proportion of the total that prices for these are not usually shown in the quotation lists, as the chief export trade is in sheeting and drill, with a smaller trade in T cloth. The dyed drills, it may be mentioned, are largely used for skirts by school girls, typists, etc., purple seeming to be the favorite color.

USE OF TRADE-MARKS.

The list gives a good idea of the range of prices of cotton cloth in Japan and also shows the kind of trade-marks (usually called chops in China) that are popular. Some of these chops have associations in the people's minds that make them popular in a way that would not be recognized by an outsider. For example, the Ori Hime, or Weaving Lady, which is one of the main brands of the 44-inch shi ting and the mark used by the Osaka Boseki, recalls to every Japanese or Chinese buyer a legend that is common to both nations. As related by Lafcadio Hearn it is briefly as follows:

Tanabata-tsume (sometimes called the Goddess of Weaving) was the daughter of the great god of the firmament and spent her time weaving garments for her august parent. One day she saw a handsome peasant lad pass by leading an ox and fell in love with him. Her father allowed her to marry him, but as she then neglected her weaving they were soon separated and sentenced to live apart with the Celestial River (the Milky Way) between them; but they are permitted to see each other once a year, on the seventh night of the seventh moon. On that night, provided the skies be clear, the birds of heaven make, with their bodies and wings, a bridge over the stream, and by means of that bridge the lovers can meet. But if there be rain, the River of Heaven rises and becomes so wide that the bridge can not be formed, and the lovers have to wait another year. The seventh day of the seventh month (July 7) is an old national holiday and that night one can still see in many parts of Japan (especially in the country districts) freshly cut bamboos fixed on the roofs of the houses with strips of colored paper fastened in slits at the ends. These papers bear written prayers for rain, for it is thought that if the weather be fair that night and the lovers meet it is a sure sign that there will be epidemics and other disasters during the coming year.

Some other chops are equally interesting in their derivation and their association in the minds of the people in both Japan and China with certain legends or events makes them popular in themselves, other things being equal. However, a majority of the chops here, as elsewhere, consist of representations of animals, birds, etc.

OSAKA CLOTH MARKET.

Many cloths of the different Japanese mills have an established reputation in that country, as do some of their export chops in China, so that the cloth is quoted and sold entirely on the chop, without the

necessity of giving the particulars. Some of the leading cloth wholesale dealers at Osaka, in addition to sending their customers printed market quotations every week or ten days, publish at the end of the year a résumé of the price variations during the year, and one or two of these issue charts showing the variations in detail for special cloths taken as types of the various lines.

The chart shown is that of Yagi Shoten, a large cloth and yarn firm at Osaka, and shows the actual prices at which it sold eight standard Japanese cotton cloths. These are wholesale prices in yen per piece. The yen is 49.8 cents and the length of each piece is as hereafter shown. The chart records the price variations per piece by $2\frac{1}{2}$ sen, except for the first cloth, which shows the price changes by 5 sen only, as this cloth is in lengths of 120 yards. The chart covers the period from January 4 to December 28, 1913.

The net wholesale prices are for cloth sold to the home trade and include the textile consumption tax, with the exception of three export cloths, (3) the Dragon drill, (5) the Geese drill, and (6) the Dragon C sheeting, for which are given the prices for export free of the textile consumption tax.

CAUSES OF MARKET FLUCTUATIONS.

The causes of some of the variations are stated by Yagi Shoten for the various months as follows:

January.—Market condition good, with silver high but cotton also high.

February.—Tone of market steadied with renewal of first voyages of the steamship companies to the north.

March.—Sudden fall in price of silver unsteadied the market.

April.—Large demand for $30\frac{1}{2}$ -inch Eggplant shirting, also corner attempted in Chrysanthemum T cloth.

May.—Chinese Government secures foreign loans but friction between the north and south leaves the market in a perplexed condition.

June.—Market steady.

July.—Prices decline with breaking out of war between North and South China.

August.—Prices in general advance on the quelling of the disturbances in China.

September.—Prices firmer on estimates for small cotton crop in America; corner attempted in the 44-inch Hawk shirting.

October.—Prices decline on reports from America of good weather and increased estimates for the cotton crop.

November.—Prices fall with a decline in silver and at end of month disorders in financial circles in India.

December.—Considerable fluctuations in silver affect prices at beginning of this month and the holidays at the end of the month.

The cotton cloth prices in Osaka are affected by international events as well as local supply and demand. Any variation in the price of silver in China has a strong effect on the export trade, and this is reflected in the domestic trade. The price of cotton all over the world is largely governed by the size of the American cotton crop, so that American cotton crop estimates are also followed with keen interest and affect spot prices as well as prices for future delivery.

DESCRIPTION OF STANDARD CLOTHS.

The eight standard cloths that are shown in this chart are as follows:

1. Nasu futahaba kanakin, or Eggplant chop of double-width shirting; $30\frac{1}{2}$ -inch, 60 by 58, in 120-yard pieces weighing $16\frac{1}{2}$ pounds; made by Amagasaki Boseki.

2. Kai Jo mihaba kanakin, or Woman Diver chop of triple-width shirting; 44-inch, 72 by 72, in 46-yard pieces weighing 9 pounds; made by Amagasaki Boseki.

3. Riu aya momen, or Dragon chop of drill; 30-inch, 72 by 48, in 40-yard pieces weighing 14 pounds; made by Miye Boseki.
4. Ori Hime mihaba kanakin, or Weaving Lady chop of triple-width shirting; 44-inch, 58 by 58, in 46-yard pieces weighing $9\frac{1}{2}$ pounds; made by Osaka Boseki.
5. Gacho aya momen, or Geese chop of drill; 30-inch, 60 by 40, in 40-yard pieces weighing $13\frac{1}{2}$ pounds; made by Miye Boseki.
6. Riu C sofū, or Dragon C chop of sheeting; 36-inch, 44 by 44, in 40-yard pieces weighing $13\frac{1}{2}$ pounds; made by Miye Boseki.
7. Taka mihaba kanakin, or Hawk chop of triple-width shirting; 44-inch, 58 by 58, in 45-yard pieces weighing 8.7 pounds; made by Osaka Boseki.
8. Botan tenjiku, or Peony chop of T cloth; 31-inch, 58 by 52, in 24-yard pieces weighing 6 pounds; made by Miye Boseki.

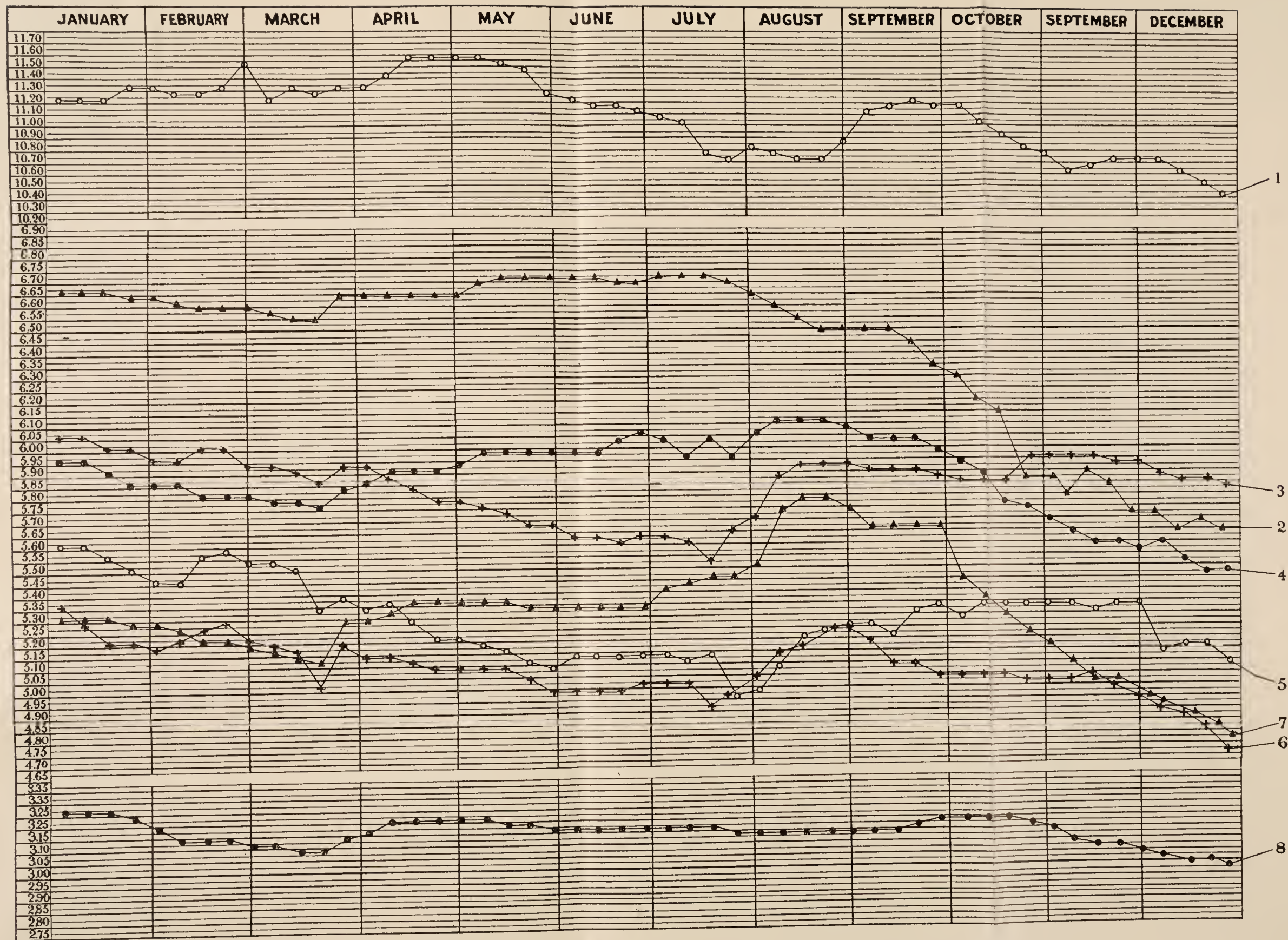
HAND-LOOM CLOTHS.

SHIRO MOMEN, OR NANKEEN.

The cloth made in Japan before the introduction of power looms was mainly the narrow, plain-woven cloths called shiro momen, which is literally white cloth. To improve the market appearance and value the weavers, before selling, usually half bleached this cloth in the old style by soaking it in hot water in which wood ashes had been stirred, then washing in the river, and spreading it out on the grass to the action of sun and dew, this being repeated several times. This practice is still kept up to a large extent to-day, and one may see men going from house to house every week or so to collect the ashes, though many weavers now substitute soda ash. Because of this half bleach the ordinary hand-loom cloth is called shiro momen. Most of it is exported in this shape, though some is shipped as it comes from the loom. The market value, both at home and abroad, is increased by the whitening, but as white is the color of mourning in China as well as in Japan the cloth is nearly always dyed before use. In both countries the color preferred for piece dyeing is some shade of blue.

The ordinary cloth socks worn by the Japanese are made of nankeen, the women usually wearing the bleached and the men the dyed, though the men also wear the bleached on ceremonial occasions. The riksha men and the peasants in general are usually dressed in dyed nankeen, and it is used for practically all purposes for which sheeting would be used in other countries. Being hand-woven cloth, the yarns for these goods are made with less twist than is necessary to withstand the strain of power-loom weaving, hence the cloth is softer and more flexible. While most of it is coarse, some is woven of fine yarns. The usual width is 8 sun to 1 shaku, say, 11.9 to 14.913 inches. The length varies usually between 50 and 60 shaku as woven; 52, 54, and 56 shaku are the ordinary lengths. In selling on the home market each piece is usually cut in two, as about 26 or 27 shaku is the usual length of this narrow cloth required to make a man's kimono, or about 30 shaku for a woman's (the latter requiring a good deal more material for the large sleeves). Most of the yarns used are 16s and 20s, though there are some coarser and some much finer.

In some cases the cloth is not bleached after weaving; instead the yarns are whitened by being scoured with carbolic acid. For some purposes it is heavily sized, while for others it is pure sized. One of the sizing preparations that is still used in certain sections is made by boiling seaweeds and thickening them with rice flour, but more modern methods have now been largely substituted.



RANGE OF 1913 WHOLESALE PRICES IN YEN PER PIECE AS RECORDED BY YAGI SHOTEN OF OSAKA.

No. 1. "Eggplant" shirting, 30 $\frac{1}{2}$ -inch, 120 yards.
 No. 2. "Woman Diver" shirting, 44-inch, 46 yards.
 No. 3. "Dragon" drill, 30-inch, 40 yards.
 No. 4. "Weaving Lady" shirting, 44-inch, 46 yards.

No. 5. "Geese" drill, 30-inch, 40 yards.
 No. 6. "Dragon C" sheeting, 36-inch, 40 yards.
 No. 7. "Hawk" shirting, 44-inch, 45 yards.
 No. 8. "Peony" T cloth, 31-inch, 24 yards.

The manufacture of shiro momen, or nankeen, is mainly a home industry, but some sections make the cloth in certain varieties of widths, lengths, constructions, etc., so that an expert dealer by looking at a piece of this cloth can tell immediately from what district it came, and say whether it is a Len Shu, a Mikawa, a Yamato, or other make. The cloth is made principally by farmers' wives in the wintertime, but the Naigai Wata, the Sakai, and the Ki-Yo Shokufu cotton mills also weave some on narrow power looms, mainly on looms of the Toyoda or Harada pattern that are made in Japan. Most of this cloth is less than 1 shaku (14.913 inches) wide, but a small amount is woven wider.

The Textile Year Book (Boshoku Yoran), edited at Osaka by Mr. Riyemon Uno, gives some particulars as to this plain-woven nankeen shipped to Manchuria, Chosen, and Formosa, as follows:

Shiro momen for Manchuria.—Mainly two varieties: First, 1-shaku cloth woven 1.2 shaku in reed; length, 50 shaku; weight per piece, about 560 momme (4.63 pounds); No. 14 warp, No. 12 weft. Second, 31½-inch cloth woven 34 inches in reed; 68 warp ends per inch; No. 16 warp, No. 18 weft; 24-yard lengths.

Shiro momen for Chosen.—Some of the principal varieties as follows: First, 1 shaku wide, woven 1.1 shaku in reed; 400 ends in warp; warp and weft No. 16; 56-shaku piece weighs about 355 momme. Second, 1 shaku wide, woven 1.1 shaku in reed; 400 ends in warp; No. 16 warp and No. 14 weft; 60-shaku piece weighs about 480 momme. Third, 31½-inch cloth, woven 34 inches in reed; 40-yard lengths; No. 14 warp and No. 13 weft; 48 picks per inch and 44 ends per inch. Fourth, 31½-inch cloth in 40-yard lengths; 52 ends of No. 13 warp and 50 picks No. 14 weft per inch.

Shiro momen for Formosa.—These are mostly made in 42-shaku lengths and the width of warp in reed is usually 1.1, 1.2, or 1.3 shaku; No. 16 for both warp and weft or No. 16 warp and No. 15 weft.

The manufacture of this hand-loom shiro momen is still a very large industry in Japan, and it offers substantial competition to the sheetings made in the mills. It is very similar to the nankeen made on hand looms in China, and in addition to the large home trade the Japanese export considerable quantities to Chosen, Manchuria, and North China.

TENUGUIJI, OR JAPANESE TOWELING.

Tenuguiji, or Japanese toweling, and the Japanese towels cut therefrom are entirely different from the towels woven in imitation of the European, which are distinguished as "Towels, Turkish and honeycomb or huckaback" in the export statistics. Japanese towels are made from different varieties of the hand-woven shiro momen, or nankeen, and are therefore rather soft cloths in plain weaves. The widths vary from about 8 sun to 1 shaku (11.9 to 14.913 inches). A few are woven on power looms, but the great majority are made on the hand loom entirely.

This narrow toweling is usually hand printed in blue designs. In the system used in Japan the designs are first cut in paper stencils. A paper stencil is laid on the cloth, covering a length equal to one towel, and then smeared with a kind of rice paste; another towel length is turned over this and another stencil laid on exactly even with the one below, and smeared with rice paste, and so on until the entire length of 54 shaku, more or less, has been folded in this manner, with stencils of the same pattern between each fold and exactly over one another. This bundle is placed in a hand press, indigo dye is poured over, and an air pump used to force the dye through more

quickly. The cloth is compressed by the screw of the hand press, so that the dye in soaking through from top to bottom is able to pass through only the cut places in the stencils. As soon as the dye has penetrated the bundle the press is unscrewed, the bundle taken out, the stencils removed, and the rice paste washed off, leaving blue patterns indelibly outlined on the material.

In Japan this Japanese toweling is used for many purposes. Besides its ordinary use as towels, one sees workmen with *tenuguiji* bound around their heads, and firms often give it away with their advertisements stamped on it. Some of the patterns produced for sale are very artistically made, showing views of Mount Fuji, rural scenes, foliage, flowers, peacocks, etc., and in recent years a fair amount has been exported direct or carried away by tourists to be used for doilies, table covers, center pieces, etc.

KASURI.

Kasuri is translated in the export statistics as spotted tissues, because it shows irregular spots in white on a blue ground (sometimes blue on a white ground or other variations). However, it is not printed cloth, though it appears so upon casual inspection. In making kasuri the yarns, both warp and weft, are tied up tightly with hemp strings placed at measured intervals, and then dyed. The dye is unable to penetrate under the tightly bound strings, and when the yarn is taken from the dye bath and the cords removed it shows alternate portions of white and of blue or other color. The warp is carefully arranged so that the white portions all come at even intervals, and the weft is started through the warp so that the white portions on it will coincide with the white portions on the warp. This work takes skillful weaving, but cloth so made is greatly preferred by the Japanese to printed cloth, especially as fast colors are used (usually indigo for the blue), so that there is no fear of its fading, and the cloth shows the same on both sides. This system is somewhat similar to the "bandanna" style of dyeing practiced in India, except that there the cloth itself is tied up with strings before being dyed. This kasuri is generally made with white blocks on a blue ground, but in some both white and red blocks are made on a blue ground and there are other variations. Kasuri is the ordinary material worn by school children in Japan, and it is also used to some extent by the women. There is a small export to Chosen, Hawaii, and other places, mainly for the use of the Japanese children residing there. Kasuri is entirely hand-loom cloth, plain woven, in narrow widths up to 1 shaku wide, and except for the "bandanna dyed" warps and wefts is similar to the ordinary shiro momen, or nankeen.

KOKURA, OR CORDED CLOTH.

Kokura, or corded cloth, is almost entirely hand-woven, a trifle being produced by the Wakayama mill only. There are five main types, viz, *fuku ji*, *hakama ji*, *obiji*, *hanao ji*, and *kaban ji*.

Fuku ji is a dress material made after the European style. Most of it is produced at Tokushima on Shikoku Island, Warabi in Saitama prefecture, the north Kawachi district in Osaka prefecture, and around Nagoya. It is woven like duck but with finer yarns; most of it is plain-woven but some has a corded twill effect. The yarns are

mostly two or three ply and run from 14s up to 42s. The widths vary from 1.2 to 1.75 shaku and the lengths from 27 to 30 shaku. Most of it is made in white, dark-blue, and pepper-and-salt varieties. The white suits worn by the police in the summer time are made of this material; it is also dyed khaki and other colors and used as uniforms for soldiers and school boys, etc.

Hakama ji is a corded material used for men's skirts, usually in blue-and-white stripes. It is produced principally around Warabi in Saitama prefecture and around Nagoya in Aichi prefecture. It is generally plain-woven but of two types—gassed and boseki (spinning). Gassed kokura is made with gassed yarns, usually 60s to 80s warp and 30s or 32s weft, some of the coarser grades having as low as 20s. The boseki kokura is made with ungassed yarns, usually 30s to 40s warp and 20s to 22s weft. The standard width of this cloth is 1 shaku, but the coarser varieties are made as narrow as 0.91 shaku.

Kokura obiji, or corded material for Japanese sashes, is produced mainly in the Warabi district and in the suburbs of Osaka. It is largely plain-woven in dark blue, with a single stripe, but in some the stripe is woven figured. The usual yarns used are 42/2, frequently with the figured stripe of 80s silkets (mercerized cotton) or of silk yarns. Some of these goods are made with the warp entirely of silk or mercerized cotton and the weft of cotton. In some coarse grades cotton yarns as low as 20s warp and weft are used. The material for the men's sashes is usually woven about one-half shaku wide by 21 shaku long, which amount makes two sashes. The material for women's sashes is usually woven 0.9 shaku wide and 21 or 22 shaku long, and is cut into two sash lengths.

Kokura hanao ji is used principally as the cord or strap on Japanese clogs. It is a corded material, really a kind of duck, plain-woven, with each three or four warp ends treated as one. In making the cords for the clogs the cloth is cut into strips and these are rolled in lengths and sewn together. This material is produced principally in the Hirano district of Osaka prefecture and in the vicinity of Tokyo. The cloth is woven in widths of 0.95 up to 1.7 shaku and in lengths of 20 to 30 shaku. The warp is ordinarily 42/2 but sometimes 20s single, and the weft is mostly 16s to 20s ply yarns (2 to 4 ply).

Kokura kaban ji, or corded material for trunks, is a kind of duck produced in the Hirano district of Osaka prefecture and around Tokyo. Those produced in the Hirano district are mostly 2.4 to 3 shaku wide in 30-yard lengths, weighing from 200 to 900 momme per piece. The warps used vary from 16s to 30s, either single or double; the wefts vary from 12s to 20s in 2 or 3 ply. Those produced around Tokyo vary from 2.35 to 3 shaku in width, but in length run from 40 up to 91 yards, with weights per piece of 2,600 to 6,800 momme. The yarns used run from 14s up to 32s in from 3 up to 20 ply.

IMPORTATION OF CLOTH.

The imports of cotton piece goods into Japan, according to the official statistics, have been as follows:

Years.	Value. ^a	Years.	Value. ^a	Years.	Value. ^a
	<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
1868.....	2,542,980	1883.....	2,785,394	1898.....	10,878,972
1869.....	2,633,960	1884.....	2,488,172	1899.....	8,946,445
1870.....	2,982,311	1885.....	2,884,372	1900.....	18,438,274
1871.....	5,525,033	1886.....	2,316,977	1901.....	8,872,906
1872.....	4,888,031	1887.....	3,380,494	1902.....	14,867,592
1873.....	5,609,482	1888.....	4,691,986	1903.....	10,610,292
1874.....	5,404,653	1889.....	4,668,339	1904.....	9,011,857
1875.....	5,045,684	1890.....	4,129,043	1905.....	18,128,763
1876.....	4,908,151	1891.....	3,418,334	1906.....	18,887,356
1877.....	4,195,136	1892.....	4,668,489	1907.....	17,548,192
1878.....	5,007,535	1893.....	5,678,888	1908.....	18,006,342
1879.....	5,830,978	1894.....	6,958,490	1909.....	14,097,818
1880.....	5,523,014	1895.....	6,894,108	1910.....	13,667,562
1881.....	5,044,220	1896.....	11,610,738	1911.....	14,243,262
1882.....	4,219,343	1897.....	9,611,720	1912.....	9,546,048

^a For value of the yen prior to 1897 see p. 11.

SMALL MARKET FOR FOREIGN GOODS.

Japan has never been a very large market for foreign cottons. The heaviest imports, made in 1906 during the flush period following the Russian War, were valued at only 18,887,356 yen (\$9,405,903). The people at first were too poor and unaccustomed to foreign luxuries to require the better woven goods from abroad, and depended on products of the hand loom for their needs. By the time that the country had become more prosperous and was able to buy better cloths a Japanese power-loom industry had been developed that produced all the coarse and medium grade goods usually required. Some of the finer and lighter goods and specialties are still imported, but as the power-loom industry develops the market for even such articles becomes smaller. In spite of fluctuations due to various causes, the tendency is for imports of cotton piece goods to decrease like those of cotton yarn. The imports in 1912 were valued at only 9,546,048 yen (\$4,753,932).

UNITED KINGDOM DOMINATES TRADE.

The imports of cotton goods into Japan have always been furnished almost entirely by the United Kingdom. The imports in 1890, for example, were as follows:

Articles.	Total imports.		Imported from—		
	Quantity.	Value.	United Kingdom.	United States.	Germany.
Shirting:	<i>Sq. yds.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Grey.....	30,378,133	1,716,981	1,716,981	.....	.....
White.....	3,098,231	225,889	220,728	352	3,669
Twilled.....	1,404,066	92,589	91,475	1,114	.....
Figured.....	52,191	4,564	4,564	.....	.....
Dyed.....	2,866,083	266,690	266,690	.....	.....
Prints.....	6,900,018	478,463	448,824	1,061	11,585
Velvets.....	2,500,821	382,852	377,236	424	5,063
Turkey-red cambrics.....	6,370,690	366,416	345,531	.....	1,440
Satins.....	2,163,389	231,592	229,210	.....	2,382
T cloth.....	2,587,485	144,483	144,483	.....	.....
Victoria lawns.....	1,044,807	53,295	53,245	.....	51
Drills.....	483,816	44,647	44,146	378	124
Duck.....	157,317	35,993	4,580	29,778	.....
Taffachelass.....	47,043	9,324	.....	.....	3,422
Damasks.....	5,244	1,770	1,467	.....	304
Ginghams.....	3,480	539	407	.....	.....
Chinese cloth.....	<i>a</i> 620	519	.....	.....	.....
Korean cloth.....	<i>a</i> 280	121	.....	.....	.....
All others.....	935,679	72,316	68,345	746	2,740
Total.....	.....	4,129,043	4,017,912	33,853	30,780

a Pieces.

Of the total imports the United Kingdom supplied 97.31 per cent and had practically no competition; only a little duck came from the United States and a small amount of prints from Germany.

HEAVY IMPORTS IN 1900.

The imports of cotton piece goods remained small until after the Chino-Japanese War, when there was an increase, due to the general prosperity in Japan and to the consequent tendency to luxury. There was a large increase in 1896, a decline in 1897, another increase in 1898, a decline in 1899, and in 1900 the import trade rose to a level that has since been surpassed but once. The imports of cotton piece goods in 1900 were as follows:

Articles.	Total imports.		Imported from—		
	Quantity.	Value.	United Kingdom.	Germany.	United States.
Shirting:	<i>Sq. yds.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Grey.....	69,839,980	5,558,004	5,555,116	21	2,855
White.....	12,849,043	1,325,142	1,250,610	502	14,700
Twilled.....	2,663,617	339,029	333,978	3,012	.....
Figured.....	65	19	.....	.....	.....
Dyed.....	352,420	54,372	52,521	1,636	.....
Satins.....	16,727,383	3,662,638	3,653,112	6,541	1
Prints.....	14,094,812	2,002,732	1,949,102	18,103	6
Flannel.....	6,672,018	1,515,409	81,766	1,209,751	.....
Umbrella cloth.....	3,631,619	886,632	882,632	.....	.....
Velvets.....	1,893,570	864,497	710,905	152,308	1,024
Turkey-red cambrics.....	3,288,029	424,772	405,487	.....	.....
Victoria lawns.....	4,151,833	281,718	281,718	.....	.....
Handkerchiefs, in piece.....	2,118,082	250,504	226,227	297	.....
Duck.....	171,107	100,000	8,983	1,755	88,865
Drills.....	574,878	96,355	83,939	37	11,700
T cloth.....	50,951	5,035	5,035	.....	.....
All others.....	3,320,570	1,071,416	755,833	192,296	5,759
Total.....	.....	18,438,274	16,236,964	1,586,259	124,910

The total imports in 1900 were 18,438,274 yen, or \$9,182,260, as compared with 4,129,043 yen, or \$2,056,263, in 1890. There were large increases in the imports of grey and white and twilled shirting, and prints, Victoria lawns, and velvets. The greatest increase, however, was in cotton satins (including Italians), which in 1890 amounted to 231,592 yen and in 1900 to 3,662,638 yen. If the new item of umbrella cloth were also included under this, it would bring the 1900 figures to 4,549,270 yen, or nearly 30 times the value of such imports in 1890. On the other hand, the purchases of dyed shirtings and Turkey-red cambrics and T cloths decreased. By this time the Japanese were enlarging their industry and increasing their exports of T cloth, and this item disappears in the import trade after 1900. Cotton flannels were not listed in 1890, but later the Germans began to ship large amounts and in 1900 the total imports amounted to 1,515,409 yen, of which Germany alone supplied 1,209,751 yen. Owing to this new line of imports developed by Germany, the share of the English in the import trade declined to 88.06 per cent in 1900. Germany had 8.6 per cent and the small remainder came from all other countries. As in 1890, the United States contributed mainly duck.

COURSE OF TRADE IN RECENT YEARS.

The course of the cotton piece goods imports into Japan since 1900 is shown in the following table:

Articles.	1901	1902	1903	1904	1905	1906
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Shirting:						
Grey.....	2,991,651	5,070,651	3,627,373	2,730,257	6,273,502	7,502,392
White.....	575,743	1,191,777	648,492	637,562	1,699,826	1,292,599
Twilled.....	49,861	126,623	77,297	41,150	99,086	136,913
Satins and Italians.....	1,684,497	1,788,536	1,140,858	656,546	1,999,924	2,187,795
Umbrella cloth.....	1,086,066	827,322	560,889	587,346	792,334	1,593,348
Prints.....	680,468	2,602,032	1,975,376	532,093	1,392,977	2,572,330
Velvets and plushes.....	453,531	1,231,077	759,709	293,577	864,089	713,145
Victoria lawns.....	180,326	262,080	117,215	192,847	428,963	493,647
Handkerchiefs, in piece.....	3,392	3,695	6,542	9,922	49,412	41,644
Flannels.....	234,672	704,812	536,946	272,115	481,533	1,054,232
Duck.....	111,325	76,546	74,298	1,005,969	1,708,211	112,501
Drills.....	92,723	96,690	108,644	1,221,702	1,012,292	94,172
Turkey reds and dyed shirting.	202,664	308,992	361,787	7,426	186,602	5,559
All others.....	525,987	576,759	614,866	823,345	1,140,012	1,087,079
Total.....	8,872,906	14,867,592	10,610,292	9,011,857	18,128,763	18,887,356

Articles.	1907	1908	1909	1910	1911	1912
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Shirting:						
Grey.....	6,946,655	7,521,714	5,555,889	5,469,926	5,336,303	1,629,379
White.....	1,285,953	1,641,148	1,262,918	910,775	1,444,489	1,238,408
Twilled.....	117,656	34,321	74,130	114,985	30,871	139,786
Satins and Italians.....	2,083,210	3,072,725	1,796,223	1,532,266	1,903,684	} 3,119,197
Umbrella cloth.....	1,695,757	1,696,093	885,044	1,353,802	1,459,752	
Prints.....	2,494,944	1,338,611	1,708,569	1,720,390	1,271,837	425,516
Velvets and plushes.....	893,171	1,404,576	1,301,794	862,939	795,993	1,113,159
Victoria lawns.....	227,517	240,789	383,653	279,889	446,119	335,580
Handkerchiefs, in piece.....	49,043	106,832	169,487	176,326	259,121	(a)
Flannels.....	623,206	205,080	176,007	186,599	61,245	95,758
Duck.....	103,171	79,905	45,803	97,646	64,305	44,023
Drills.....	37,589	27,869	35,112	29,122	19,126	(a)
Turkey reds and dyed shirting.	14,406	6,981	30,710	43,342	11,049	43,837
All others.....	975,914	629,698	672,479	889,555	1,139,368	1,361,405
Total.....	17,548,192	18,006,342	14,097,818	13,667,562	14,243,262	9,546,048

^a Not separately stated.

In 1905 the imports of cotton piece goods doubled because of the army requirements, and as there were not enough looms to supply the demand in the country large imports were made during 1906, 1907, and 1908 to satisfy the more luxurious tendencies of the people during the years following the Russian War. This tendency was so strong that the increase in the tariff in 1906 had only a small effect on the trade. By 1909, however, with the increase in domestic production and a reaction from the prosperous times, the imports fell off and this decline continued in 1910. In 1911 there was a slight rise, due to stocks being imported in anticipation of a higher tariff, but in 1912, with this tariff in force, the imports declined sharply.

SHARE OF UNITED STATES IN TRADE.

Only in 1904 and 1905 has the United States been able to get much share in the trade, and that was due solely to the demand for duck and drill for the army. According to official statistics Japan bought from the United States in 1905 2,209,591 yen of cotton piece goods, of which duck accounted for 3,325,341 yards, valued at 1,672,388 yen, and drills for 1,175,125 yards, valued at 362,761 yen. With the cessation of this special demand the total purchases from the United States in 1906 dropped to 122,619 yen, of which duck amounted to 120,381 yards, valued at 94,085 yen, and drills to 82,498 yards, valued at 17,420 yen. Before and since the two war years of 1904 and 1905 the amount of cotton piece goods bought from the United States has been negligible. Most of the articles still required from abroad are such as are export specialties of the United Kingdom, hence that country dominates the trade.

From 1905 to 1911, inclusive, Japan imported considerable amounts of grey shirtings, but the higher tariff of 1911, with the increased manufacture of fine yarn and cloth in the country, bids fair to wipe out this trade, except in certain special lines. In 1912 the imports of grey shirtings declined to 1,629,379 yen. Part of the grey shirtings imported are grey "printers," 30½ inches wide in 120-yard lengths, about 72 by 72 construction and finer, which are used for printing; but imports of these and the ordinary grey shirtings, 44/45 inches wide, with about the same construction but usually 46 yards long, and others of similar character tend to decline rapidly, especially as the Japanese are steadily developing the printing as well as weaving industry. The fine cambrics made of Egyptian cotton classed under this heading, certain classes of white shirting, and Victoria lawns will continue to be imported, however, as the Japanese find it difficult to make these as perfectly and with as good finish as the English, owing to their labor not being so skilled.

PURCHASES FOR SPECIAL INDUSTRIES.

Japan has been importing from Belfast considerable amounts of fine linen, and linen and cotton mixtures, for use in the manufacture of drawn work, of which the exports are increasing, but the present tendency is to substitute cotton cloth with a linen finish for the more expensive linen, and if this tendency continues the imports of linen from Belfast will be considerably curtailed while purchases of suitable cotton goods will be maintained. The standard size of the drawn-work articles is 36 inches square (of which 2½ inches is allowed for

hem), and the average price for linen is stated to be about 20s.; for unions the cost is 15s., and for cotton about 10s., so that there is considerable economy in using a cotton foundation. Though the bulk of such cotton cloth is still imported, owing to the Japanese not being able to make either the cloth or the finish satisfactorily, Japanese goods are being used for the cheaper grades; the Japanese are improving their methods and in time will make all grades required. Each class of work of this character is done in a separate section of the country. For instance, drawn work comes from the district which has Hamamatsu as its center, rennaissance from Echigo and Yokosuka, and embroidery from Kozu and Nagoya. The imports of white shirtings and Victoria lawns for this line of work are little affected by the increased tariff rates, as a drawback is allowed upon the exportation of the finished articles.

The continuance of the large imports of cotton satins and Italians is explained, aside from the inferiority of the Japanese products, mainly by the fact that the Japanese have developed a considerable trade in the Far East, British India, the United States, and other countries, for cheap umbrellas made on the European pattern. The Japanese do not use many foreign umbrellas, as they prefer their cheaper native umbrella made of oiled paper stretched on bamboo framework, and their manufacture is mainly for export. In 1910 they shipped "Umbrellas and parasols, European," to the number of 3,400,941, valued at 1,849,733 yen; in 1911, 3,197,388, valued at 1,657,433 yen; and in 1912, 3,416,849, valued at 1,556,302 yen. Of the total exports in 1912, umbrellas and parasols to the number of 3,378,454, valued at 1,513,466 yen, were of cotton tissues, and only 38,395, valued at 42,836 yen, of silk or other tissues. The great majority of these European-pattern umbrellas go to China, Dutch East Indies, and the British Straits Settlements, with smaller amounts to Hongkong, British India, Kwantung Province, etc. In 1912 the United States is recorded as buying 160,028 umbrellas, valued at 24,750 yen.

IMPORTS UNDER NEW TARIFF IN 1912.

In 1912, under the new tariff, the classification of imports was somewhat changed, and the imports of cotton piece goods are given as follows:

Articles.	Quantity.	Value.	Articles	Quantity.	Value.
	<i>Sq. yds.</i>	<i>Yen.</i>		<i>Sq. yds.</i>	<i>Yen.</i>
Velvets, plushes, and other pile tissues.....	2,005,571	1,113,159	Figured or brocaded tissues:		
Flannels and other raised tissues.....	303,158	95,758	Grey.....	2	1
Gauze, crapes, etc.....		8,126	Bleached.....	43,780	15,262
Plain tissues:			Other.....	219,732	69,690
Grey—			All other cotton tissues:		
Shirting and sheeting.....	14,261,452	1,629,379	Grey—		
Ducks.....	51,259	44,023	Twilled shirting and drills.....	985	297
Other.....	984,574	118,773	Other.....	85,859	23,300
Bleached—			Bleached—		
Shirting and sheeting.....	9,101,447	1,238,408	Twilled shirting and drills.....	822,203	139,489
Victoria lawns....	4,325,792	335,580	Other.....	324,303	76,676
Other.....	1,244,193	194,227	Other—		
Other—			Italians and satins	13,730,437	3,119,197
Dyed shirting and turkey-red cambrics.....	270,815	43,837	Other.....	2,360,469	488,541
Prints.....	2,601,799	425,516	Total.....		9,546,048
Other.....	1,560,364	366,809			

Umbrella cloths (Italians and other satins, mostly black), grey and bleached shirtings of fine construction, and cotton velvets and plushes are the only articles now imported in appreciable amounts; and of these, only the umbrella cloths and possibly the velvets and plushes have much prospect of holding their own.

In 1912 the trade was, as theretofore, almost monopolized by the United Kingdom, which shipped goods valued at 8,703,240 yen, or 92.04 per cent of the total. Of the remainder, Germany obtained 354,518 yen worth, of which the chief item was cotton plush and velvet, worth 142,823 yen, and the United States 84,572 yen, of which the principal items were 24,851 yen of twilled shirting and 22,904 yen of duck. France supplied 27,376 yen worth, while the amounts from all others were negligible.

JAPANESE CUSTOMS DUTIES.¹

Japan was formally opened to foreign trade in 1858. In 1859, at the time when most of the early commercial treaties with the western powers had been concluded, customhouses were for the first time established and customs duties levied at a few open ports selected for that purpose. The customs tariff of that time was entirely determined by treaty, but the term of its operation was short, as the whole tariff was revised by treaties in 1866. This revised tariff was low, the general basis being 5 per cent on the value of articles imported and exported, and it remained almost unchanged for a period of some 33 years, until 1899, when new treaties of commerce and navigation, negotiated with foreign powers, became effective.

The coming into effect of the revised commercial treaties with the foreign powers made it possible on January 1, 1899, to bring into operation a general tariff which, combined with the new conventional tariffs, formed the new customs tariff of the country. At the same time all remaining export duties were entirely abolished. That on the export of cotton yarn had already been abolished on July 1, 1894.

In 1904 urgent needs of the extraordinary fund led to the imposition of a special surtax on the customs duties as well as on other taxes, and soon after the restoration of peace the entire customs tariff was revised and a higher one came into force on October 1, 1906. This tariff specified 538 articles divided into 19 groups, and imposed specific duties on many of these.

On July 17, 1911, the present customs tariff came into operation. This tariff enumerates 647 articles, classified into 17 groups; they are still further subdivided and the duties thereon as far as possible converted into specific duties. Raw materials are mostly duty-free; upon half manufactured materials light duties are levied; and upon manufactured goods the rates vary in general from 15 to 40 per cent, with a duty of as much as 50 per cent upon some articles of luxury. The effect of the doubling of the small duties in 1899, the surtax of 1904, and the new tariffs of 1906 and 1911 was immediately reflected in the imports of cotton yarn, which declined under each new burden. The imports of cotton piece goods declined in 1899, expanded again in 1900, and then again declined, decreasing under the surtaxes of 1904 to less than half the amount of 1900; the tariff of 1906 did not affect the imports greatly, except to cause some changes in the kind of goods

¹ See Customs Tariff of Japan, Tariff Series Nos. 28 and 28A.

imported, as the people were becoming wealthier and there was a strong demand for cottons not made in sufficient amounts, some not at all, within the country. The heavy decline in the imports of cotton goods in 1912 was due largely to the higher tariff inaugurated in 1911, but none of these increased entrance charges would have been effective except for the great expansion that took place in the domestic production of various kinds of cotton yarn and cotton piece goods, so that the decline has been due more to the development of the home industry than to the tariffs, though the industry has been aided by the higher duties.

The duties on cotton and its manufactures under the tariff effective July 17, 1911, are shown in the table following. The rates of duty given are applicable to imports from the principal cotton-goods exporting countries, including the United States.¹

IMPORT DUTIES ON COTTON AND ITS MANUFACTURES.

NOTE 1.—The term “fabrics” in this group (Nos. 298-343) includes felts and knitted fabrics.
NOTE 2.—The term “silk” in this group includes artificial silk.
NOTE 3.—In case a fabric in this group is composed of more than one kind of fiber, no fiber that does not exceed 5 per cent of the fabric by weight shall be considered as an admixture in reference to the tariff classification, with the exception of silk and artificial silk.
NOTE 4.—The number of threads constituting a fabric shall be ascertained by counting the elementary threads in the part where the greatest number of threads are used.
“Elementary threads” in Note 4 means single threads; for instance, a two-ply yarn will be counted as two threads, and not as one thread, and does not mean those particular threads in the body or bulk of the cloth, which are commonly known in England as “elementary threads.” Consequently, in counting threads in fabrics which have a design or border, the “elementary threads” will be counted wherever they happen to be most numerous, whether it be in the design or border or in the body of the fabric.
Note 4 is intended to apply to the counting of threads constituting such fabrics as have figures, stripes, or other designs. In case the number of threads is unequal in different parts of one piece, owing to imperfections in weaving, the mean of the number of threads in several parts of the fabric will be taken for the purpose of tariff classification. Fractions of threads, that is, threads which touch one of the sides of the counting-glass along its whole length, will not be counted.
NOTE 5.—Figured fabrics are those with a design or repeat constituted by interlacing both warp and weft threads more than 20 in number. In counting the threads, twisted yarn, consisting of two or more single yarns or yarns put together to act as one, shall be counted as one.
A figured fabric, such as is dutiable under No. 298 (8), is one that has a design or repeat constituted by interlacing more than 20 warp threads with more than 20 weft threads. For the purpose of counting the said threads, twisted yarns consisting of two or more single yarns or yarns put together to act as one, will be counted as one thread. It is clear, however, that this method of counting will be used only in ascertaining whether a fabric should pay duty as a figured fabric or not, and not for the purpose of counting threads as set forth in Note 4.
The quality of the selvage shall not affect the tariff classification of a fabric, unless intended expressly for the ornamentation of the fabric.
Cotton fabrics known in the trade as “scoured” or “washed” fabrics will not be dutiable as “bleached fabrics,” so long as the natural color is retained.

Tariff No.	Articles.	Rates of duty.	
		In yen (= 49.8 cents).	In dollars.
271	Cotton in the seed or ginned, including carded or combed cotton...	Per 100 kin.	Per 100 lbs.
272	Cotton yarns:	Free.	Free.
	1. Single or two ply—		
	A. Unbleached, including gassed yarn, not exceeding—		
	a. No. 24 English.....	5. 80	2. 18
	b. No. 42 English.....	6. 40	2. 41
	c. No. 60 English.....	9. 50	3. 58
	d. No. 80 English.....	11. 00	4. 14
	e. Other.....	11. 30	4. 25
	B. Bleached simply— <i>Dutiable as unbleached yarn, plus</i>	1. 00	.38
	C. Other— <i>Dutiable as unbleached yarn, plus</i>	3. 00	1. 13
	2. Other—		
	A. Unbleached, including gassed yarn.....	28. 00	10. 54
	B. Other.....	30. 00	11. 29
273	Cotton twine not exceeding 3 grams per 10 meters and cotton thread:		
	1. In skein—		
	A. Unbleached.....	28. 00	10. 54
	B. Other.....	30. 00	11. 29
	2. Other—		
	A. Reeled on wooden spool (including spools).....	35. 90	13. 52
	B. Other.....per cent. ad val..	30	30

¹ Imported fabrics classified under Nos. 298, 306, 308, 312, 326, and 342, are subject to an internal tax of 10 per cent ad valorem in addition to the import duties.

Tariff No.	Articles.	Rates of duty.	
		In yen (= 49.8 cents).	In dollars.
295	Waste or old fibers, waste yarns, and waste threads.....	Per 100 kin.	Per 100 lbs.
ex296	Twine, cordage, braids, and plaited ropes, not otherwise provided for:	Free.	Free.
	1. Of cotton.....	18.20	6.85
298	Fabrics of cotton:		
	1. Velvets, plushes, and other pile fabrics, with piles cut or uncut—		
	A. Unbleached.....	25.50	9.60
	B. Other.....	30.00	11.29
	2. Fabrics woven with chenille threads.....per cent. ad val..	20	20
	3. Flannels and other napped fabrics.....	16.00	6.02
	4. Crape.....per cent. ad val..	20	20
	5. Gauze fabrics.....	36.00	13.55
	6. Fabrics interwoven with lace.....per cent. ad val..	20	20
	7. Plain fabrics, not otherwise provided for—		
	A. Unbleached—		
	(1) Weighing not more than 5 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	15.30	5.76
	b. 27 threads or less.....	20.70	7.79
	c. 35 threads or less.....	28.70	10.80
	d. 43 threads or less.....	38.00	14.31
	e. More than 43 threads.....	51.30	19.31
	(2) Weighing not more than 10 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	8.30	3.12
	b. 27 threads or less.....	10.50	3.95
	c. 35 threads or less.....	13.50	5.08
	d. 43 threads or less.....	16.50	6.21
	e. More than 43 threads.....	18.70	7.04
	(3) Weighing not more than 20 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	6.70	2.45
	b. 27 threads or less.....	8.30	3.12
	c. 35 threads or less.....	10.50	3.95
	d. 43 threads or less.....	13.50	5.08
	e. More than 43 threads.....	14.70	5.53
	(4) Weighing not more than 30 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	6.00	2.26
	b. 27 threads or less.....	6.70	2.45
	c. 35 threads or less.....	8.00	3.01
	d. 43 threads or less.....	10.70	4.03
	e. More than 43 threads.....	13.30	5.01
	(5) Other.....	9.30	3.50
	B. Bleached simply— <i>Dutiable as unbleached fabrics, plus</i>	3.00	1.13
	C. Other— <i>Dutiable as unbleached fabrics, plus</i>	7.00	2.64
	8. Figured or brocaded fabrics, not otherwise provided for—		
	A. Unbleached—		
	(1) Weighing not more than 5 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	26.00	9.79
	b. 27 threads or less.....	35.00	13.18
	c. 35 threads or less.....	47.00	17.69
	d. 43 threads or less.....	65.00	24.47
	e. More than 43 threads.....	88.00	33.13
	(2) Weighing not more than 10 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	14.00	5.27
	b. 27 threads or less.....	18.00	6.78
	c. 35 threads or less.....	22.00	8.28
	d. 43 threads or less.....	29.00	10.92
	e. More than 43 threads.....	36.00	13.55
	(3) Weighing not more than 20 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 27 threads or less.....	17.00	6.40
	b. 35 threads or less.....	21.00	7.91
	c. 43 threads or less.....	27.00	10.16
	d. More than 43 threads.....	34.00	12.80

Tariff No.	Articles.	Rates of duty.	
		In yen (= 49.8 cents).	In dollars.
298	Fabrics of cotton—Continued.		
	8. Figured or brocaded fabrics, not otherwise provided for—Continued.		
	A. Unbleached—Continued.		
	(4) Weighing not more than 30 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—	<i>Per 100 kin.</i>	<i>Per 100 lbs.</i>
	a. 27 threads or less.....	16.00	6.02
	b. 35 threads or less.....	20.00	7.53
	c. 43 threads or less.....	26.00	9.79
	d. More than 43 threads.....	33.00	12.42
	(5) Other.....	24.00	9.04
	B. Bleached simply— <i>Dutiable as unbleached fabrics, plus</i>	3.00	1.13
	C. Other— <i>Dutiable as unbleached fabrics, plus</i>	7.00	2.64
	9. Other—		
	A. Unbleached—		
	(1) Weighing not more than 5 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	16.00	6.02
	b. 27 threads or less.....	21.30	8.02
	c. 35 threads or less.....	29.30	11.03
	d. 43 threads or less.....	39.30	14.80
	e. More than 43 threads.....	53.30	20.07
	(2) Weighing not more than 10 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 19 threads or less.....	8.00	3.01
	b. 27 threads or less.....	10.00	3.76
	c. 35 threads or less.....	14.30	5.38
	d. 43 threads or less.....	18.00	6.78
	e. More than 43 threads.....	20.00	7.53
	(3) Weighing not more than 20 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 27 threads or less.....	8.00	3.01
	b. 35 threads or less.....	11.30	4.25
	c. 43 threads or less.....	15.00	5.65
	d. More than 43 threads.....	18.80	7.08
	(4) Weighing not more than 30 kilos per 100 square meters, and having in a square of 5 mm. side, in warp and weft—		
	a. 27 threads or less.....	7.30	2.75
	b. 35 threads or less.....	8.70	3.28
	c. 43 threads or less.....	11.30	4.25
	d. More than 43 threads.....	14.70	5.53
	(5) Other.....	10.00	3.76
	B. Bleached simply— <i>Dutiable as unbleached fabrics, plus</i>	3.00	1.13
	C. Other— <i>Dutiable as unbleached fabrics, plus</i>	7.00	2.64
	Cotton fabrics for umbrellas, and unfigured satins, dyed, weighing more than 10 and not more than 20 kilos per 100 square meters, and having in a square of 5 millimeters side, in warp and weft—		
	From 28 to 35 threads.....	18.30	6.89
	From 36 to 43 threads.....	22.00	8.28
ex306	Lace fabrics and netted fabrics:		
	1. Curtain material—		
	A. Of cotton.....	20.00	7.53
	2. Mosquito netting—		
	A. Of cotton.....	78.80	29.67
308	Embroidered fabrics.....per cent ad val.	40	40
312	Window hollands.....	30.70	11.56
322	Lamp wicks.....per cent ad val.	30	30
323	Typewriter ribbons.....do.	30	30
ex324	Handkerchiefs, single:		
	1. Of cotton.....	a 25.90	a 12.90
ex325	Towels, single:		
	1. Of cotton.....	40.00	15.06
ex326	Cotton blankets, single.....	25.80	9.71
ex329	Cotton tablecloths, single.....	60.00	22.59
ex337	Woven belting for machinery and woven hose:		
	1. Of cotton.....per cent ad val.	25	25
342	Fabrics not otherwise provided for.....do.	30	30
345	Shirts, shirt fronts, collars, and cuffs.....	134.00	50.45
ex346	Undershirts and drawers:		
	1. Knitted—		
	A. Of cotton.....	115.00	43.29
ex347	Gloves:		
	1. Of cotton.....	226.00	85.08
ex348	Cotton stockings and socks.....	138.00	51.95

a Per 100 dozen.

KNIT-GOODS INDUSTRY AND TRADE.

The knit-goods industry of Japan has been developed mainly within the last 10 years, but it is becoming of increasing importance in the export trade. The Department of Agriculture and Commerce shows the development of this industry since 1904 as follows:

Years.	Number of factories.	Employees.			Total value of output.
		Males.	Females.	Total.	
1905.....	712	2,817	2,331	5,148	<i>Yen.</i> 4,314,404
1906.....	798	2,488	2,294	4,782	6,799,134
1907.....	863	2,579	2,571	5,150	6,599,518
1908.....	978	3,166	3,015	6,181	6,815,541
1909.....	940	3,245	3,107	6,352	4,469,900
1910.....	851	3,387	3,709	7,096	8,416,838
1911.....	1,053	3,520	4,358	7,878	10,324,521

OUTPUT OF VARIOUS CLASSES OF GOODS.

The output was divided among the various classes of knit goods as follows:

Years.	Undershirts.		Drawers.		Socks.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
1905.....	906,435	<i>Yen.</i> 2,493,561	48,619	<i>Yen.</i> 368,470	798,418	<i>Yen.</i> 912,330
1906.....	964,801	3,277,169	202,171	1,130,335	799,735	679,874
1907.....	1,190,791	3,755,536	147,025	805,571	749,342	650,493
1908.....	1,065,489	4,507,303	90,340	366,867	<i>a</i> 1,113,725 <i>a</i> 6,750	852,950 540
1909.....	<i>b</i> 949,789 <i>b</i> 3,250	2,272,990 975	66,663	324,523	1,193,302	1,088,915
1910.....	<i>b</i> 1,775,889 <i>b</i> 1,625	5,826,049 4,875	63,415	492,193	1,217,985	1,170,969
1911.....	<i>b</i> 2,492,653 <i>b</i> 1,530	7,356,496 4,560	101,698	584,133	1,789,382	1,246,418

Years.	Gloves.		Pantaloons.		Others.	Total value.
	Dozens.	Value.	Dozens.	Value.		
1905.....	127,558	<i>Yen.</i> 235,009	82,871	<i>Yen.</i> 95,902	<i>Yen.</i> 209,132	<i>Yen.</i> 4,314,404
1906.....	<i>a</i> 191,930 <i>a</i> 10	206,143 2	62,131	104,877	1,400,734	6,799,134
1907.....	<i>a</i> 271,652 <i>a</i> 10	322,962 2	80,853	130,813	934,141	6,599,518
1908.....	295,179	309,860	133,332	130,324	647,697	6,815,541
1909.....	287,002	280,189	101,579	133,882	368,426	4,469,900
1910.....	219,186	217,209	118,214	204,491	501,052	8,416,838
1911.....	240,037	253,021	199,909	254,099	625,794	10,324,521

a Pairs.

b Kwan.

Of the total operatives in 1911, 3,850 were employed around Osaka, 1,245 around Tokyo, 576 around Hyogo (Kobe), 323 around Moji, and 272 around Miyagi.

As shown by the number of operatives to the factory, most of the workshops are very small. They buy their raw materials, mainly cotton yarn, from Japanese factories, with a smaller amount of the finer yarn from abroad. Recently, however, with the increased market found abroad, the Osaka Meriyasu Kaisha (Osaka Knitting Co.), with 10,048 spindles, has been started and will make its own yarn. The larger portion of the articles produced, in fact over three-fourths, is exported, the great bulk being shipped from Osaka.

EXPORT TRADE.

According to the customs statistics the exports of knit goods from Japan have been as follows:

Years.	Knit undershirts and drawers.		Gloves.		Socks and stockings.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
		<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
1882.....	3,186	5,119	7,900	2,127	4,749	1,835
1883.....	3,021	4,690	897	399	7,664	2,801
1884.....	4,335	7,245	2,231	402	29,835	5,550
1885.....	6,180	9,145	5,370	837	52,490	8,530
1886.....	3,479	5,705	7,274	1,919	24,091	5,840
1887.....	2,039	3,540	3,548	2,066	8,440	4,434
1888.....	12,380	15,649	16,595	5,286	42,634	14,321
1889.....	14,977	21,635	17,308	5,424	29,383	12,995
1890.....	21,121	37,037	18,007	6,556	28,773	10,701
1891.....	25,170	37,320	4,402	1,840	46,674	16,466
1892.....	37,254	54,009	13,702	5,155	44,867	15,213
1893.....	96,305	132,270	56,671	19,091	119,250	40,944
1894.....	100,586	133,547	23,949	9,415	77,582	45,255
1895.....	76,657	96,993	13,777	6,482	109,718	63,319
1896.....	91,823	125,032	11,143	7,235	113,106	53,020
1897.....	55,803	76,337	7,873	6,536	71,917	43,346
1898.....	103,280	138,578	9,901	7,847	107,696	60,007
1899.....	174,860	230,497	13,363	10,123	188,229	112,436
1900.....	177,291	235,056	14,678	13,766	158,708	121,012
1901.....	154,310	265,362	43,554	44,286	213,323	140,084
1902.....	213,974	324,430	42,342	35,890	206,570	137,433
1903.....	611,076	785,697	23,270	24,396	259,047	176,965
1904.....	1,066,558	1,506,713	48,700	56,652	304,770	194,606
1905.....	1,048,796	1,681,654	81,800	111,686	398,873	275,865
1906.....	1,494,546	2,563,972	79,878	117,769	705,371	646,050
1907.....	2,260,229	3,709,928	113,733	127,089	720,385	662,492
1908.....	1,938,405	3,105,796	142,368	156,861	678,224	691,458
1909.....	2,542,566	3,733,900	112,036	118,916	932,983	832,722
1910.....	4,220,744	6,011,532	157,407	146,491	1,326,458	979,518
1911.....	3,727,432	5,586,736	214,597	178,977	1,459,371	1,096,178
1912.....	4,446,102	7,359,960	314,828	318,788	1,718,794	1,388,463

In 1904 underwear was first divided as to "knit" and "all others," while since 1906 hosiery has been divided into "socks and stockings for boots and shoes" and "all others." The material of which the gloves and hosiery above listed are made is not stated, but they are mainly of cotton.

The rise of the knit-goods exports to a trade of some importance has been the work of the last decade and the present tendency is toward a still more rapid increase.

DISTRIBUTION OF EXPORTS IN 1890.

The exports of knit goods in 1890 were distributed as follows:

Countries.	Undershirts and drawers.		Gloves.		Socks.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
		<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
Hongkong.....	9,558	19,864	3,452	1,017	22,568	7,542
China.....	11,175	16,117	14,397	5,368	4,394	1,606
Korea.....	98	254	120	96	752	655
Russia.....	86	189	32	21	1,021	837
British India.....			6	54	25	44
Other countries.....	204	613			13	17
Total.....	21,121	37,037	18,007	6,556	28,773	10,701

Favored by steamship connections, Hongkong was at that time the best market for Japanese knit goods, as well as for Japanese cotton piece goods.

CHANGES IN TRADE IN 1910.

The exports in 1900 were distributed as follows:

Countries.	Undershirts and drawers.		Gloves		Socks and stockings.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
		<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
British India.....	110,951	101,982	190	95	6,327	2,081
Hongkong.....	41,835	49,090	6,230	5,361	58,252	19,614
China.....	13,260	40,526	4,271	4,311	23,572	14,153
Russia.....	7,421	30,424	949	1,012	31,513	33,190
Korea.....	1,339	7,265	2,934	2,881	36,914	49,742
Other countries.....	2,485	5,769	104	106	2,130	2,232
Total.....	177,291	235,056	14,678	13,766	158,708	121,012

By 1900 the main outlet for underwear had been found in British India, though with direct sales to Korea after the Chinese War that country became the chief purchaser of hosiery.

DEVELOPMENT OF EXPORT TRADE IN RECENT YEARS.

How the trade has developed and widened since is shown by the list of the countries taking these articles in 1912, as follows:

Countries.	Knit undershirts and drawers.		Gloves.		Socks and stockings.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
		<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
British India.....	2,712,641	3,983,616	620	532	253,042	165,695
Hongkong.....	532,565	984,193	33,113	23,290	232,949	104,444
China.....	163,526	662,811	213,124	224,895	791,787	709,973
Philippines.....	262,201	509,807	.....	.....	32,517	23,813
Kwantung Province.....	52,007	259,691	57,859	60,013	166,310	187,417
Dutch Indies.....	303,695	290,319	.....	.....	23,852	16,556
United Kingdom.....	70,920	130,539	.....	.....	2,290	1,986
Straits Settlements.....	99,321	127,349	70	49	33,485	30,603
Australia.....	44,948	89,441	37	263	1,100	6,451
Cape Colony and Natal.....	44,753	73,498	.....	.....	1,799	2,436
Egypt.....	30,307	37,831	.....	.....	69,550	44,183
Turkey.....	15,865	27,972	.....	.....	32,051	23,306
French Indo-China.....	10,694	17,480	.....	.....	96	183
Germany.....	9,108	15,200	.....	.....	2,702	1,970
Siam.....	9,919	12,794	5	8	6,311	6,235
Italy.....	6,525	6,699	.....	.....	13,590	8,913
France.....	3,687	6,222	.....	.....	8,163	5,331
United States.....	2,259	4,992	.....	.....	1,088	1,458
Asiatic Russia.....	1,523	3,827	10,000	9,728	9,890	10,318
Peru.....	1,124	2,605	.....	.....	5,645	5,068
Other countries.....	68,514	113,074	.....	10	30,577	32,124
Total.....	4,446,102	7,359,960	314,828	318,788	1,718,794	1,388,463
Chosen.....	38,833	156,442	44,948	42,142	180,840	259,202

The figures for Chosen are shown for contrast. As this trade is now classed as domestic commerce, the exports thereto are not included in the total.

Of the socks and stockings exported in 1912, 1,674,629 dozens, valued at 1,305,932 yen, were classed as socks and stockings for boots and shoes, and 44,165 dozens, valued at 82,531 yen, as other socks and stockings. The Japanese wear cloth socks, with a place made for the big toe; knitted socks are used only by those who adopt European costume and wear boots or shoes. The two items have been lumped in the above statistics to afford a comparison with statistics previously given, as they were not listed separately until 1907.

Knitted underwear finds its best market in British India, Hongkong, China, the Philippine Islands, Kwantung Province, and Dutch India; socks and stockings in China, Kwantung Province, British India, and Hongkong; and knitted gloves mainly in China.

IMPORT TRADE.

The imports of cotton undershirts and drawers, gloves, and socks and stockings into Japan are officially recorded as follows:

Years.	Knit undershirts and drawers.		Gloves.		Socks and stockings.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
		<i>Yen.</i>		<i>Yen.</i>		<i>Yen.</i>
1882.....	6,116	24,505	13,827	20,225	7,964	12,150
1883.....	10,735	44,423	16,427	16,200	10,736	14,967
1884.....	4,449	17,229	32,831	30,669	21,740	15,989
1885.....	9,442	36,777	61,951	43,998	22,308	17,283
1886.....	7,501	24,844	57,947	64,322	38,788	26,002
1887.....	13,635	47,811	7,098	2,066	76,074	55,247
1888.....	14,020	56,538	13,428	34,568	18,222	32,962
1889.....	12,298	52,114	13,842	33,872	16,416	35,340
1890.....	11,156	48,150	17,217	48,347	18,004	34,536
1891.....	14,369	61,046	6,354	20,108	6,913	13,077
1892.....	9,025	37,961	5,101	20,587	3,507	8,152
1893.....	4,935	24,193	7,987	35,008	6,422	14,727
1894.....	3,040	17,855	3,098	20,508	4,676	11,483
1895.....	4,536	27,123	5,682	41,095	4,799	16,555
1896.....	6,175	39,124	10,032	53,683	14,251	40,752
1897.....	6,756	41,817	6,658	37,441	8,494	23,685
1898.....	5,341	32,669	9,690	50,286	16,384	44,043
1899.....	3,016	22,035	16,575	68,245	12,558	38,252
1900.....	6,800	50,773	16,185	96,259	24,289	72,741
1901.....	7,088	58,199	14,409	67,288	21,532	61,267
1902.....	5,332	47,633	13,672	73,150	13,118	36,606
1903.....	10,225	92,652	9,117	37,026	19,633	50,936
1904.....	14,059	139,097	16,344	58,198	25,432	73,695
1905.....	22,012	215,350	42,980	141,673	39,722	101,049
1906.....	23,274	222,188	52,284	142,669	44,446	102,222
1907.....	7,675	67,273	11,953	56,324	21,921	73,067
1908.....	4,475	44,307	18,836	104,105	18,244	67,862
1909.....	3,036	27,780	15,744	78,080	20,111	60,193
1910.....	4,025	36,769	16,020	78,239	21,071	62,935
1911.....	3,720	34,707	15,207	100,254	20,172	77,387
1912.....	2,933	27,707	15,006	80,137	10,237	41,876

The imports of gloves above given were listed until 1903 simply as “gloves” and thereafter as “gloves other than leather.” The material of either the gloves or the hosiery is not specified, but most of them have undoubtedly been of cotton.

FLUCTUATIONS IN IMPORTS.

The largest imports of knit goods were at the time of the Russian War, but with the increased tariff in 1906 and the larger home manufacture the imports dropped sharply, and the tariff of 1911, which made especially high rates on knit goods, has further accentuated the decline. The imports of these articles in 1890, 1900, and 1912 are shown in the table following.

Countries.	Undershirts and drawers.		Gloves.		Socks.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
1890.		Yen.		Yen.		Yen.
United Kingdom.....	8,568	38,956	12,253	38,746	14,895	29,411
Germany.....	1,057	3,819	4,565	7,910	2,345	4,617
France.....	481	1,214	181	853	423	261
United States.....			20	70	4	38
Other countries.....	1,050	4 161	198	768	337	209
Total.....	11,156	48,150	17,217	48,347	18,004	34.536
1900.						
United Kingdom.....	5,405	41,115	8,742	63,915	10,529	42,682
Germany.....	1,172	7,239	6,786	26,740	12,477	26,172
France.....	57	366	219	2,163	778	2,458
United States.....	164	2,034	20	192	147	680
Other countries.....	2	19	418	3,249	358	749
Total.....	6,800	50,773	16,185	96,259	24,289	72,741
1912.						
United Kingdom.....	2,707	25,149	1,433	9,435	6,962	32,331
Germany.....	127	1,485	13,430	69,560	3,242	9,364
France.....	75	777	3	4	3	20
United States.....	21	270	31	681	30	161
Other countries.....	3	26	109	457		
Total.....	2,933	27,707	15,006	80,137	10,237	41,876

There was an increase in the imports during the Russian War period, but they have decreased since until they are now less than they were in 1900. With the tariff raised, and Japan increasing its exports, there is no future in this line.

RÉSUMÉ OF COTTON-GOODS TRADE.

The following table gives the value of the import and export trade of Japan in cotton and its manufactures in 1912:

Articles.	Value.	
	Yen.	Dollars.
IMPORTS.		
Cotton:		
In the seed.....	1,889,461	940,951
Ginned.....	198,934,743	99,069,502
Yarn.....	630,732	314,105
Thread.....	367,060	182,796
Piece goods.....	9,546,048	4,753,932
Handkerchiefs, single.....	32,460	16,165
Undershirts and drawers, knitted.....	27,707	13,798
Gloves, other than leather ^a	80,137	39,908
Stockings and socks ^a	41,876	20,854
Woven belting for machinery and woven hose ^a	295,202	147,011
Total.....	211,845,426	105,499,022
EXPORTS.		
Yarn.....	53,689,746	26,733,012
Thread.....	126,554	63,024
Wadding.....	252,744	125,867
Waste cotton and waste-cotton yarn.....	527,006	262,449
Piece goods ^b	28,146,710	14,017,062
Undershirts and drawers:		
Cotton, knit.....	7,359,960	3,665,260
Cotton crapes.....	249,473	124,238
Cotton flannels.....	45,639	22,728
Cotton netting.....	73,291	36,498
Gloves ^a	318,788	158,756
Socks and stockings: ^a		
For boots and shoes.....	1,305,932	650,354
Other.....	82,531	41,100
Total.....	92,169,374	45,900,348

^a Material not stated specifically but chiefly of cotton.

^b Including towels, handkerchiefs, and blankets of cotton.

IMPORTANCE OF COTTON GOODS IN FOREIGN TRADE.

The total import trade of Japan in 1912 amounted to 618,992,277 yen (\$308,258,154), of which the imports of cotton and its manufactures accounted for 34.22 per cent. Of the total export trade in 1912 amounting to 526,981,842 yen (\$262,436,957), exports of manufactured cotton and waste accounted for 17.49 per cent.

Raw cotton is the main article imported into Japan. By far the largest export is raw silk, but next to this is cotton yarn. The value of the silk tissues exported in 1912 was 30,100,979 yen, or, adding 4,711,966 yen of silk handkerchiefs, a total of 34,812,945 yen (\$17,336,847), which exceeds the exports of cotton tissues, though less than that of cotton yarn.

ITEMS NOT LISTED AS COTTON GOODS.

In addition to the imports of cotton shown above there was also imported 39,176 yen (\$19,511) of "stockinet and similar knitted tissues," of which a good portion was of cotton. There was also exported 97,484 yen (\$48,547) of "shirts, stiffened," and 124,545 yen (\$62,023) of collars and cuffs, of which the majority were certainly cotton. Listed among the piece goods in the above table were 442,298 pieces valued at 158,705 yen of "Japanese toweling, plain weaves" (tenuguiji), but towels made from such material were not shown; the exports of "Japanese towels" in 1912 amounted to 140,517 dozen, valued at 70,538 yen (\$35,128).

The Japanese make a considerable amount of velvet, which they weave with wires on hand looms, and much of this is also of cotton. After weaving, much of this velvet is stamped with patterns of temples or other objects and then cut into parts; and "cut velvet" kakemonas and wall hangings are quite a feature of the tourist trade.

When at Belfast ¹ I reported the fact that the Irish hand embroidery experienced increasing competition from Japanese hand embroidery. In addition to the regular hand embroidery, which is made partly on linen or half linens imported from Ireland and partly on cotton cloths, the Japanese are very skillful at making hand-embroidered pictures. They will copy a picture, say Rosa Bonheur's "Horse Fair," a rural scene, a forest fire, a picture of a dog, a rooster, or even a man's photograph by needle work only, and by using thread of various sizes and colors and skillful blending make such an exact imitation that in many cases one has to look closely to determine if it is a hand-embroidered picture or an oil painting. This also is a great feature of the tourist trade, and large amounts of such work and of the cut velvets and other similar textiles are sold that do not figure in the customs returns.

¹ "Flax, Hemp, and Jute Industries in the United Kingdom," Special Agents Series No. 74, 1913.

TEXTILE FABRIC LAW OF JAPAN.

The textile fabric law was established in 1905 as an extraordinary levy to help meet war expenses, and was revised in 1910. By its provisions each wholesaler on buying from the mill or on importing has to pay 10 per cent of the value of the goods to the Government, and, of course, he passes this tax on to the consumer. Goods destined for export are free of this tax; but it is such a burden on the home trade that there is continued agitation for its repeal. At present, however, it does not seem that the Government can spare the revenue it brings in. This law causes a considerable difference in the prices quoted for home and for foreign trade, as previously shown, and it has such an important effect on the cotton trade in general that it is given in full:

TEXTILE FABRIC TAX LAW.

ARTICLE I. The consumption tax is imposed on textile fabrics according to the provisions of the present law.

ART. II. The rate of the consumption tax is fixed at 10 per cent of the value of textile fabrics.

ART. III. The undermentioned textile fabrics are exempted from the consumption tax by order:

1. Textile fabrics or articles made of textile fabrics, exported to foreign countries, or intended for export to foreign countries;
2. Textile fabrics manufactured for the use of the manufacturers themselves or of the manufacturers' families;

In case textile fabrics, or articles made of them, on which the consumption tax has been duly paid, are exported to foreign countries the sum corresponding to the amount of the tax paid shall be refunded.

ART. IV. The consumption tax shall be paid at the time of taking delivery of textile fabrics from the place of manufacture, customhouse, or bonded warehouse, by persons who take delivery of the same. The payment of the consumption tax can be substituted by declaring the value of the article and affixing due stamps on the article by the manufacturers as required by law. In such cases the manufacturers are regarded as persons who take delivery of the goods. In affixing the stamps for the consumption tax a fraction of 1 sen is calculated as 1 sen.

ART. V. The collection of the consumption tax may be postponed for a period within three months, provided a security of the value corresponding to the amount of the consumption tax is deposited.

ART. VI. When the consumption tax has been duly paid, or a security of the value corresponding to the amount of the consumption tax has been deposited, a seal, or a note, attesting the payment of the tax is stamped on, or affixed to, the textile fabrics, on request.

ART. VII. In the undermentioned cases textile fabrics can be taken over without paying the consumption tax as required by law:

1. When textile fabrics are taken over from a manufactory, in order to transmit them to other manufactories, or to store them in warehouses.
2. When textile fabrics are taken over from a manufactory, or warehouse, for the purpose of dyeing, printing, or doing other work to them;
3. When textile fabrics are taken over from a manufactory or warehouse, for the payment of the consumption tax, which is to be made at a fixed place designated by the Government.

In the above-mentioned cases the destination of the goods is regarded as the place of manufacture and the persons engaged in the business at the said place are regarded as manufacturers.

ART. VIII. In case textile fabrics, which were once taken over from a manufactory with the consumption tax duly paid, are again taken back to the manufactory, the consumption tax is not collected when taking delivery of the textile fabrics in question from the manufactory, provided a Government certificate be given specifying their kind and quantity.

ART. IX. Persons who take delivery of textile fabrics from manufactories, custom-houses, or bonded warehouses, shall send in to the Government a statement of the value of the said textile fabrics at the time of delivery, excepting the cases referred to in clause 2 of Article IV and in Article VII. In case they fail to send in the said statement, or in case the value given in the statement is thought wrong, the Government may appraise the goods in question and determine their value. When persons taking delivery of textile fabrics object to the appraised value referred to, they can file protests to that end without delay. In such cases the Government will appoint more than two appraisers and decide the value according to their opinions. In case the difference between the value held by the objector and that determined by the Government is greater than the difference between the value appraised by the Government, referred to in the foregoing clause, and that finally determined by the Government according to the opinions of appraisers, the cost involved in the judgment shall be borne by the objector.

When the declared value of textile fabrics with stamps affixed thereon is considered inadequate, the Government shall estimate their value and collect the consumption tax due on the balance of the value. In this case the provisions of the foregoing clauses apply *mutatis mutandis*.

ART. X. Except the cases falling within the purview of Articles V and VII, textile fabrics can not be taken over from manufactories, customhouses, or bonded warehouses, before the payment of the consumption tax.

ART. XI. Except the cases falling within the purview of Articles V and VII, the manufacturers of textile fabrics can not hand over to others textile fabrics before the payment of the consumption tax.

ART. XII. Persons wishing to manufacture textile fabrics or sell them shall apply to the Government to that end. This, however, does not apply to the manufacture of textile fabrics coming within the purview of (2) Article III.

ART. XIII. Persons engaged in the manufacture of textile fabrics are not allowed to carry on, at one and the same place, the sale of textile fabrics, and the manufacture of the articles with textile fabrics as raw material thereof. This, however, does not apply to the cases where the manufactory of textile fabrics is established separately from the place of the sale of the same, or from the manufactory of the manufactures with textile fabrics as the raw material thereof, with permission of the Government.

ART. XIV. Persons engaged in the manufacture or sale of textile fabrics, or in the manufacture of the articles referred to in the preceding article, shall provide books and enter in them the particulars about the manufacture, purchase, and sale, of textile fabrics, or the manufactures made of textile fabrics.

ART. XV. The revenue officials have the right to visit the manufactories, places of sale of textile fabrics, or the manufactories of the articles referred to in Article XIII, and examine textile fabrics, articles made of textile fabrics, tools, machinery, buildings, or books and other business papers. The revenue officials can put seals on the above-mentioned articles, etc., when they consider it necessary to do so for their control.

ART. XVI. The revenue officials have the right to examine textile fabrics in the course of transportation, or make inquiries as to the place of consignment and destination. In this case the revenue officials can also suspend their transportation or put seals on the goods, or vessels or carriages on which they are carried, when such is thought necessary for the execution of their duties.

ART. XVII. Each of the undermentioned cases shall be punished with a fine of the amount corresponding to three times the amount of the consumption tax due, in addition to the consumption tax, which shall be collected without delay. In case, however, the consumption tax does not exceed 4 yen the amount of the fine is fixed at 20 yen.

1. When textile fabrics have been manufactured without applying to the Government, except in cases falling under the provisions of Article XII.

2. When textile fabrics or manufactures thereof, which were exempted from the consumption tax, being originally intended for export to foreign countries, have been consumed in Japan, or have been sold for domestic consumption.

3. When textile fabrics have been consumed before the consumption tax is paid, or before a security for the payment of the consumption tax is deposited.

4. When textile fabrics taken delivery of according to the provisions of Article VII are not transported to the places where they were to be transported.

5. Violations of the regulations provided in Articles X and XI.

ART. XVIII. Each of the undermentioned cases is punished with a fine varying between 3 yen and 30 yen.

1. Violations of the regulations of Article XIII.

2. When the manufacturers or sellers of the textile fabrics, or the manufacturers or sellers of articles referred to in the provisions of Article XIII do not provide books concerning the manufacture, purchase, or sale, of textile fabrics or manufactures thereof, or make false entries, or neglect to make entries in those books.

3. When those persons fail to declare the value of textile fabrics or to affix due stamps to them, as required by law.

4. When those persons object to the revenue officials performing their duty.

In the case of Paragraph I, however, when textile fabrics have been used as raw materials in the manufacture of other goods the provisions of the preceding article apply.

ART. XIX. The reduction or remission of punishment provided in the Criminal Law and the provisions of clause 2 of article 48 of the Criminal Law are not applicable to violations of the present law, or to orders issued in accordance with the provisions of the present law.

ART. XX. In case the manufacturers or sellers of textile fabrics, or the manufacturers of the articles referred to in the provisions of Article XIII, are minors, or persons interdicted from the management of their property, the penal regulations applicable to such persons according to the present law, or the orders issued in accordance with its provisions apply to their legal (statutory) representatives. This, however, does not apply to minors possessing the same faculty as adults in the management of business.

ART. XXI. In case the representatives, the head or members of the family, inmates of the house, employees, or other persons engaged in the business, of the manufacturers, or sellers of textile fabrics, or the manufacturers of the articles referred to in the provisions of Article XIII, violate the present law, or the orders issued in accordance with its provisions, the manufacturers, or sellers of the textile fabrics, or the manufacturers of the articles referred to in the provisions of Article XIII, are subject to the punishment provided therefor.

REGULATIONS FOR EXECUTION OF TEXTILE FABRIC TAX LAW.

ARTICLE I. The terms "manufacturers" and "persons making others manufacture textile fabrics" in the present law do not imply those who manufacture textile fabrics only for their own use, or for the use of their families.

ART. II. Persons wishing to manufacture textile fabrics shall state the locations of their manufactories and the kinds of textile fabrics they wish to manufacture, and send in statements to that effect to the revenue offices in whose jurisdiction their manufactories are located.

Persons who wish to sell textile fabrics at a fixed place of sale shall send in applications to the revenue offices of the district where their places of sale are located.

Persons who wish to sell textile fabrics at a fixed place of sale shall send in applications to the revenue offices of the places where their domiciles are located.

ART. III. A manufactory, although it covers separate lots of land, can be regarded as one and the same factory.

ART. IV. The revenue offices concerned, in case of necessity, may order the manufacturers of textile fabrics to produce the plans of their factory buildings, or the inventory of tools and machinery used in the manufacture of textile fabrics.

ART. V. When textile fabric manufactories are removed, the matter shall be notified to the revenue offices of the places to which they are to be removed.

Persons engaged in the sale of textile fabrics at fixed places of sale, when removing their shops to other places, shall notify the revenue offices of the places to which they have removed.

Persons engaged in the sale of textile fabrics without having fixed places of sale, when removing their residences to other places, shall notify the revenue offices of the places to which they have removed.

ART. VI. When the manufacturers of textile fabrics engage in the manufacture of the same for a fixed period of time, they shall previously give notice to the revenue offices concerned of the period of commencement and completion of manufacture.

ART. VII. Any change taking place in the matters notified to the competent authorities according to the provisions of Articles II and VI, or a change in the plans, or in the inventory, produced according to the regulations of Article IV, shall be notified to the revenue offices concerned.

ART. VIII. Persons who have succeeded to the manufacture, or the sale, of textile fabrics, shall notify the revenue offices concerned to that effect. Persons who have handed over to others the manufacture, or sale, of textile fabrics, shall notify the revenue offices concerned to that effect, the notification to be countersigned by the successors to the business.

ART. IX. When the manufacturers, or sellers, of textile fabrics want to discontinue their business, they shall give notice of the fact to the revenue office concerned.

ART. X. Persons who wish to have remitted the consumption tax on textile fabrics, or on articles made of textile fabrics, which are to be exported to foreign countries, shall obtain certificates from the revenue offices concerned each time they take delivery of such textile fabrics from the manufactories. In the case of manufactories which manufacture only textile fabrics intended for export to foreign countries, the aforementioned proceeding can be omitted, provided the revenue offices concerned permit it as unobjectionable in the way of their control. The same applies to the case of manufactories of textile fabrics, which are remanufactured into different articles and exported to foreign countries.

In the above-mentioned cases the conditions laid down by the revenue offices concerned, respecting the transportation or storing of textile fabrics or manufactures thereof, and other matters, shall be strictly observed. Otherwise the consumption tax will not be remitted.

ART. XI. Persons who export to foreign countries textile fabrics, or articles made of them, for which they have paid the consumption tax, and who wish to recover the amount so paid, shall apply to the custom offices of the port through which the goods are to be exported, the applications to be accompanied with evidence certifying the payment of the consumption tax. When such goods are exported by mail the said applications shall be made to the revenue offices to whose jurisdictions they belong.

Persons who wish to recover money thus paid shall previously apply to that end to the custom offices of the ports of export at the value corresponding to the amount of the consumption tax, to which they shall obtain the acknowledgment of the revenue offices concerned. In this case the provisions of the foregoing article apply *mutatis mutandis*.

ART. XII. In case persons who have deposited a security of the value corresponding to the amount of the consumption tax wish to have remitted the consumption tax on textile fabrics, or articles made of them, on account of the goods being exported to foreign countries, they shall apply to the revenue offices concerned to that end, producing at the same time evidence certifying the exportation of the said textile fabrics, or of articles made of them. In this case the last provision of the preceding article applies *mutatis mutandis*.

ART. XIII. In case the manufacturers of textile fabrics wish to have remitted the consumption tax on textile fabrics intended for their own use, or for the use of their families, they shall obtain certificates from the revenue offices concerned.

ART. XIV. Persons who wish to take delivery of textile fabrics according to the provisions of Article VII of the Textile Fabric Consumption Tax Law, shall apply to and obtain certificates from the revenue offices concerned. In this case the last provision of Article X of the present law applies *mutatis mutandis*.

ART. XV. Statements pertaining to the value referred to in the first provision of Article IX of the Textile Fabric Consumption Tax Law shall be sent in to the revenue offices concerned.

ART. XVI. Persons who wish to substitute the payment of the consumption tax by affixing due stamps on textile fabrics according to the provisions of Article IV of the Textile Fabric Consumption Tax Law, shall apply to the revenue offices concerned to that end and obtain their permission.

ART. XVII. On textile fabrics shall be affixed labels with the price of the textile fabrics declared and also the addresses and names of their manufacturers, or with the names of textile fabrics inscribed thereon, and on those labels the proper amount of stamps shall be pasted. The stamps shall then be canceled with seals partly covering the printed part of the stamps and partly the labels affixed.

ART. XVIII. When the consumption tax has been paid, or a security of the value corresponding to the amount of the tax has been deposited, the matter shall be notified to the revenue offices concerned. In this case the revenue authorities concerned shall affix tickets to, or mark with stamps on, the textile fabrics or the labels attached to them, certifying the payment of the consumption tax. In case anyone wants to do additional work to textile fabrics which have been marked with stamps, or affixed with tickets certifying the payment of the consumption tax in accordance with the foregoing provision by the revenue authorities concerned, he may apply to the authorities to have the goods marked with new stamps or affixed new tickets, on the completion of the additional work.

ART. XIX. In the places where a revenue treasury is not established, or in the hours after the closing of the treasury, the revenue officials are authorized to receive the payment of the consumption tax.

ART. XX. The securities are limited to cash or to negotiable bonds recognized as reliable by the revenue authorities concerned. Persons who produce such securities shall deposit them in banks and produce the receipts for the deposited securities to the revenue authorities concerned.

ART. XXI. When the price of the negotiable bonds deposited as securities depreciates, the revenue authorities concerned may order the depositor to produce further securities sufficient to make up the shortage. If persons who have received such order fail to produce the required securities the revenue authorities concerned shall at once levy the consumption tax due.

ART. XXII. In case the consumption tax has been duly paid in, or remission has been granted on the payment of the tax, on textile fabrics for which proper securities were produced, the revenue authorities concerned shall take steps to return the deposited securities to the depositor.

ART. XXIII. When the payment of the consumption tax becomes due, the securities deposited are appropriated to its payment. In the above-mentioned case the securities will be put up for public auction and the proceeds will be appropriated to the expenses of the auction and to the payment of the consumption tax due. In such cases shortage, or surplus, shall be collected from, or returned to, the payers of the tax.

ART. XXIV. The manufacturers of textile fabrics, or those articles mentioned in the proviso of Article XIII of the Textile Fabric Consumption Tax Law, shall enter in their books the following matters:

1. Kinds and quantity of raw material; date of delivery and the address, or name, of the deliverer (this applying to the case of textile fabrics taken over from others).

2. Kinds and quantity of raw material used in the manufacture, and the date of its use.

3. Kinds and quantity of the manufactured goods, and the date of manufacture.

4. Kinds, quantity, and value of the goods delivered to others; the date of delivery; the addresses and the names of the persons who took delivery of the goods.

ART. XXV. Persons engaged in the sale of textile fabrics shall enter in their books the following matters:

1. Kinds, quantity, and value of the goods taken over; the date of delivery; the addresses and names of the deliverers.

2. Kinds, quantity, and value of the goods sold; the date of sale; and the addresses and names of purchasers. In the case of retail trade the addresses and names of purchasers need not be mentioned.

ART. XXVI. The statements or applications to be made to the revenue offices concerned according to the provisions of the present law may be made to the revenue officials, who visit the manufactories for the execution of their duties. In such case the matter shall be informed to the revenue offices concerned. The acknowledgments given by these officials possess the same validity as those given by the revenue offices concerned.

ART. XXVII. The revenue officials shall not divulge matters relating to the business of the manufacturers or sellers of textile fabrics, or of the articles falling under the proviso of Article XIII of the Textile Fabric Consumption Tax Law, which have come to their knowledge in the execution of their official duties.

ART. XXVIII. Of the matters belonging to the functions of revenue offices provided in the present regulations, those dealing with textile fabrics delivered from the customhouses or bonded warehouses, are transacted by the custom offices.

OPERATIVES AND WAGES.

WAGES AND PRODUCTION IN SPINNING MILLS.

The following statistics are given by the Japanese Government for all the cotton spinning mills:

Years.	Daily average of working spindles.	Yarn produced.	Annual working days.	Daily working hours.	Average daily operatives.			Average daily wages.	
					Males.	Females.	Total.	Males.	Females.
		<i>Kwan.</i>						<i>Sen.</i>	<i>Sen.</i>
1888.....	113,856	1,593,103	314	22	1,204	2,199	3,403	17.0	8.0
1889.....	215,190	3,358,042	302	23	2,539	5,391	7,930	17.1	8.1
1890.....	277,895	5,132,588	294	21	4,089	10,330	14,419	17.0	8.2
1891.....	353,980	7,689,938	265	19	4,051	14,216	18,267	17.7	8.3
1892.....	385,314	9,977,208	296	22	6,354	18,878	25,232	17.4	8.9
1893.....	381,781	10,666,744	297	21	6,164	19,284	25,448	17.4	9.4
1894.....	476,123	14,620,008	277	22	8,229	26,923	35,152	17.1	8.9
1895.....	518,736	18,437,011	297	22	9,650	31,140	40,790	18.0	9.9
1896.....	692,384	20,585,485	294	22	11,394	36,087	47,481	19.7	12.0
1897.....	768,328	26,134,120	284	19	9,933	35,059	44,992	22.9	13.6
1898.....	1,027,817	32,163,239	293	20	16,183	50,620	66,803	24.8	14.9
1899.....	1,170,327	43,052,402	307	19	16,445	57,540	73,985	26.6	16.4
1900.....	1,144,027	32,419,641	303	18	12,262	43,760	56,022	31.0	19.3
1901.....	1,181,762	33,115,829	317	19	13,481	49,540	63,021	31.7	20.6
1902.....	1,301,118	38,458,947	315	21	14,375	57,513	71,888	32.3	20.6
1903.....	1,290,347	39,120,772	308	20	13,160	57,166	70,326	33.0	20.6
1904.....	1,306,198	34,569,430	309	20	10,967	52,115	63,082	33.8	21.2
1905.....	1,402,931	44,137,858	325	20	12,183	53,728	65,911	36.0	22.0
1906.....	1,441,934	46,187,845	327	22	13,032	59,281	72,313	38.0	24.0
1907.....	1,500,579	47,322,788	330	21	14,879	62,001	76,880	41.0	25.0
1908.....	1,403,034	42,864,262	331	21	15,265	58,960	74,225	44.0	27.0
1909.....	1,785,665	50,034,590	323	21	18,431	70,894	89,325	42.0	26.0
1910.....	1,896,601	56,396,939	313	19	17,698	73,821	91,519	42.0	27.0
1911.....	1,901,290	55,974,015	311	19	16,921	71,628	88,549	44.0	28.0

According to this official record the average daily wages received by the male operatives in cotton spinning mills in 1888 amounted to 17 sen (8.466 cents) and female workers 8 sen (3.984 cents), with an average of 5.6 cents a day for the whole body of operatives. In 1911 the average male operative received 44 sen (21.912 cents) and the average female operative 28 sen (13.944 cents), with an average for the whole body of operatives of 15.33 cents a day. This is an increase of 174 per cent in 24 years, and at a similar rate in another 24 years the operatives in the spinning mills of Japan may be averaging as high as 42 cents a day.

In the five years following the Chinese War of 1894-95 there was a greater proportionate rise in wages than has occurred at any other similar period, but, with slight setbacks due to unfavorable conditions, there has been a continuous trend upward.

COMPARATIVE INCREASE IN WAGES AND PRODUCTION.

The increase in wages as compared with that in yarn production per operative is shown in the following table:

Years.	Daily average of working spindles.	Yarn produced.	Working hours in year.	Total operatives.	Spindles per operative.	Yarn production per operative.	Average daily wages.	
							Males.	Females.
		<i>Pounds.</i>				<i>Pounds.</i>	<i>Cents.</i>	<i>Cents.</i>
1888.....	113,856	13,170,183	6,908	3,403	33.457	3,870	8.466	3.984
1890.....	277,895	42,331,105	6,174	14,419	19.273	2,938	8.466	4.084
1895.....	518,736	152,418,772	6,534	40,790	12.717	3,737	8.964	4.930
1900.....	1,144,027	268,013,172	5,454	56,022	20.421	4,606	15.438	9.611
1905.....	1,402,931	364,887,672	6,500	65,911	21.285	5,536	17.928	10.956
1910.....	1,896,601	466,233,495	5,947	91,519	20.723	5,094	20.916	13.446
1911.....	1,901,290	462,737,182	5,909	88,549	21.472	5,226	21.912	13.944

The number of spindles per operative is obtained by dividing the total spindles by the total operatives, but the mills work night and day, the number of days and the average hours per day varying. On the basis of the 11-hour day in 1888 the average would be 66.914 spindles per operative, and on the basis of the 9½-hour day of 1911 the average would be 42.994 spindles per operative. (This decrease in the hours per day does not indicate a trend toward shorter time, but only that trade was dull in the latter period.)

If the yarn production is reduced to a uniform basis, the production per spindle per operative per hour was 0.5602 pound in 1888 and 0.8844 pound in 1911. This is an increase in productive efficiency per operative of 56.6 per cent, while, as previously shown, the increase in average wages has been 174 per cent, which indicates a higher labor cost per pound of yarn.

ASSOCIATION'S RECORD OF PRODUCTION AND WAGES.

The foregoing table, giving working spindles, productions, wages, etc., is from official statistics published by the Japanese Department of Agriculture and Commerce. For the last 10 years the Japan Cotton Spinners' Association has also compiled, from reports made by every spinning mill, semiannual reports in similar detail, which follow.

Half years.	Daily average of working spindles.	Yarn production.	Annual working days.	Daily working hours.	Average daily operatives.			Average daily wages.	
					Males.	Females.	Total.	Males.	Females.
1903:		<i>Kwan.</i>						<i>Sen.</i>	<i>Sen.</i>
First.....	1,302,704	20,069,697	158.0	21.60	14,959	61,868	76,827	32.28	20.56
Second.....	1,293,227	20,087,216	165.7	20.90	13,631	56,804	70,435	32.86	20.58
1904:									
First.....	1,255,833	15,666,393	148.6	19.50	11,541	49,999	61,540	33.46	20.20
Second.....	1,242,339	18,373,122	162.5	21.40	11,361	50,440	61,801	33.79	20.50
1905:									
First.....	1,320,534	22,014,722	163.2	22.20	12,201	57,282	69,483	38.95	20.66
Second.....	1,338,274	22,128,294	166.6	22.20	13,422	59,986	73,408	35.19	21.83
1906:									
First.....	1,394,412	23,179,110	164.4	22.30	14,368	61,462	75,830	36.17	22.42
Second.....	1,415,014	23,002,262	166.3	22.10	14,624	61,093	75,717	36.89	23.26
1907:									
First.....	1,461,150	24,577,201	164.3	22.10	15,093	65,620	80,713	38.31	24.13
Second.....	1,454,888	23,675,621	165.7	22.11	15,391	63,133	78,524	40.33	25.00
1908:									
First.....	1,416,801	22,255,679	159.6	22.20	15,407	63,472	78,879	40.91	24.52
Second.....	1,318,460	20,592,762	164.8	22.51	14,691	54,835	69,526	41.04	25.43
1909:									
First.....	1,517,758	24,299,922	162.1	22.24	16,296	64,857	81,153	42.30	26.22
Second.....	1,620,400	25,751,744	164.4	22.10	17,391	68,471	85,862	42.62	27.14
1910:									
First.....	1,756,799	28,138,171	159.5	21.50	18,337	76,462	94,799	43.20	27.01
Second.....	1,725,535	27,300,232	159.2	21.51	18,195	74,765	92,960	43.61	27.43
1911:									
First.....	1,771,668	27,061,853	156.9	22.04	17,969	76,018	93,987	44.54	28.39
Second.....	1,796,460	28,277,165	160.3	22.08	17,278	73,718	90,996	45.49	29.18
1912:									
First.....	1,915,289	31,800,490	157.3	22.42	18,150	79,049	97,199	46.08	30.06
Second.....	2,053,093	34,878,239	162.5	22.36	18,691	82,508	101,199	47.28	31.01
1913: First.....	2,118,402	36,535,081	162.4	22.44	19,167	88,227	107,394	48.07	31.60

COMPARISON OF ASSOCIATION AND GOVERNMENT RETURNS.

Both this table and the one from the Government statistics are for all the cotton-spinning mills of Japan (excluding the weave sheds, however). Owing to some difference in the way in which compiled, the two tables are slightly different, as can be seen from a comparison of the 1911 figures, the latest issued by the Government:

	Government.	Association.
Daily average of working spindles.....	1,901,290	1,784,064
Days of work in year.....	311	317.2
Average hours worked per day.....	19	22.06
Yarn produced.....kwan..	55,974,015	55,339,018
Average number of operatives employed:		
Males.....	16,921	17,624
Females.....	71,628	74,868
Total.....	88,549	92,492
Average wages per day:		
Males.....sen..	44.00	45.01
Females.....sen..	28.00	28.78

By multiplying the average spindles worked by the total hours worked, the total spindle hours for the industry in 1911, according to the Government statistics, works out as 11,234,722,610, while according to the association figures it was 12,483,866,524.

According to the association statistics the wages reached, during the first half of 1913, an average of 48.07 sen (23.94 cents) per day for male and 31.60 sen (15.74 cents) a day for female operatives, with a general average for all operatives of 34.54 sen, or 17.2 cents.

PRODUCTION ON RING AND MULE SPINDLES.

The association separates the spindles and production, according to ring spindles and mule spindles, as follows, and also shows the average number of yarn produced by each class:

Half years.	Average working spindles.		Total production of yarn.		Average daily production per spindle.		Average yarn count.	
	Ring.	Mule.	Ring.	Mule.	Ring.	Mule.	Ring.	Mule.
1903:			<i>Kwan.</i>	<i>Kwan.</i>	<i>Momme.</i>	<i>Momme.</i>		
First.....	1,220,056	82,648	19,744,923	324,774	94.5	60.7	21.6	35.5
Second.....	1,213,513	79,714	19,788,123	299,093	94.0	54.6	21.8	36.2
1904:								
First.....	1,178,017	77,816	15,420,933	245,460	82.9	41.6	21.3	42.0
Second.....	1,166,587	75,752	18,140,426	232,696	87.4	43.7	21.1	45.9
1905:								
First.....	1,240,853	79,861	21,741,665	273,057	101.7	44.5	20.7	40.4
Second.....	1,260,951	77,323	21,848,239	280,055	99.4	48.5	20.8	41.6
1906:								
First.....	1,322,778	71,635	22,892,117	286,993	102.3	56.5	21.0	38.6
Second.....	1,348,339	66,675	22,736,527	265,735	99.3	62.3	21.1	34.7
1907:								
First.....	1,404,341	56,809	24,327,137	249,664	104.7	58.6	20.8	32.1
Second.....	1,412,022	42,866	23,480,010	195,611	101.7	57.7	20.5	30.4
1908:								
First.....	1,368,872	47,929	22,028,217	227,462	99.1	58.1	20.8	30.9
Second.....	1,270,597	47,863	20,321,009	271,753	94.3	44.0	21.0	35.8
1909:								
First.....	1,471,095	46,663	24,008,519	291,458	98.6	42.4	21.2	38.9
Second.....	1,578,404	44,996	25,506,994	244,750	95.6	43.6	21.3	47.3
1910:								
First.....	1,720,675	36,124	27,979,123	159,048	96.1	30.1	21.2	60.8
Second.....	1,696,986	28,549	27,100,833	199,399	92.9	79.3	21.6	38.3
1911:								
First.....	1,743,621	28,047	26,843,330	218,523	92.1	84.2	22.7	24.0
Second.....	1,771,828	24,632	28,095,878	181,287	90.4	69.8	22.8	34.7
1912:								
First.....	1,884,850	30,439	31,616,210	184,280	99.2	66.9	23.4	40.1
Second.....	2,011,107	41,986	34,678,372	199,867	101.0	51.5	23.0	45.0
1913: First.....	2,074,899	43,503	36,358,702	176,379	101.8	36.7	23.0	47.7

The average yarn count made on the ring frames in 1903 was No. 21.7, and in the first half of 1913 No. 23, which shows only a slight rise in the average count. The great bulk of the yarn required is coarse, and 16s weft and 20s warp were still the two main counts made, especially for export, in 1913, as they have been for a score of years. As previously shown, however, the actual amount of medium and fine yarns manufactured is increasing, though the proportion to the total is so small as to have little effect on the average yarn count for the whole. Most of the medium and fine counts are spun on the ring frame, for the mules require help of so much higher skill and consequently so much higher cost that the number of mules, even with an increase in the amount of finer numbers spun, is decreasing.

The number of spinning spindles shown by the Government and by the association in the foregoing tables is the daily average of those in operation. The Government does not show the total spindles installed, but the association records a total on December 31, 1903, of 1,381,306, of which 1,295,086 were ring and 86,220 mule; and a total on June 30, 1913, of 2,287,264, of which 2,237,904 were ring and 49,360 mule. This shows that while the ring spindles have been increasing the mule spindles have been decreasing, both in the number installed and the number operated.

AVERAGE PRODUCTION PER SPINDLE.

In the first half of 1913 in a day (that is, day and night) of 22.44 hours the Japanese ring spindles on an average of No. 23 yarn turned off 0.84158 pound each, which is equivalent to 0.375 pound in 10 hours. The Japanese mule spindles on an average of No. 47.7 in 22.44 hours turned off 0.3034 pound each, which is equivalent to 0.1352 pound in 10 hours. The spinning tables made up by the Draper Co. show about the highest speeds and productions of any American machine builder. They give for a ring spindle a 10-hour production on No. 23 warp as 0.326 pound and on No. 23 weft as 0.361 pound, both of which are under the Japanese production, if this has been correctly averaged by the association. The Japanese figures are probably fairly correct, and their higher showing is due to the fact that their figures are for the yarn as sold (or woven) and not for the yarn as spun. The Japanese heavily condition all yarn for sale, as well as most of that woven in the mill. In addition to this gain in weight from the moisture added in conditioning, most of the Japanese run their spindles at a high speed, following the English speed tables as nearly as the quality of their material will permit, and giving consideration to quantity rather than quality. Aside from the inefficiency of the help, this high speed with inferior material largely accounts for the fact that the spinners tend so very few spindles.

COMPARISON OF SPINNING IN JAPAN, ENGLAND, AND UNITED STATES.

The ring frames in Japanese cotton mills are of English make and most have 360 to 400 spindles to the frame, which is 180 to 200 spindles to the side. On 8s to 12s yarn, made from low-grade Chinese and Indian cottons, there are frequently 3 spinners to each frame, but on medium-count yarns made from all-American cotton spinners run $1\frac{1}{2}$ to 2 sides (300 to 400 spindles) each. The great bulk of the yarn spun, however, is between these two extremes, and the general rule is one side to the spinner.

On 20s warp, for instance, which is made mainly from the best grades of Indian cotton with a mixture of American Uplands and the best Chinese, a spinner usually runs one side of, say, 200 spindles. She is usually paid by weight and averages about 30 sen a day, or 1.80 yen in 6 working days of about 66 working hours. The spinning mills all operate night and day, but the actual hours worked by any spinner in a nominal 12-hour day are necessarily not much over 11. The hours are the same each day, as they have no half holiday on Saturday or other days.

In England 20s ring warp would ordinarily be spun from what they class as "fully middling" American, but "fully" is used by them to denote the half instead of the quarter grade, and as there is about a half grade difference between the English and the American cotton classifications this "fully middling" would be equal only to "middling" in the United States. An English ring spinner on 20s warp tends about 3 sides of 200 spindles, or 600 spindles, and is paid about 30d. per 100 spindles per week, making, therefore, about 15s. per $55\frac{1}{2}$ hours.

In the Carolinas 20s warp would be made of strict middling Uplands (some using good middling), and a ring spinner tends about 8 sides of 112 spindles, or 896 spindles, and is paid an average of about 11½ cents per side per day, making \$5.52 per week of 60 hours.

With the ordinary good ring spinner, under usual circumstances, the spinning of 20s ring warp in the three countries compares about as follows:

	Japanese.	English.	American.
Ring spindles per spinner on 20s warp.....	200	600	896
Working hours in 6 working days.....	66	55½	60
Spinner's wages for 6 working days.....	\$0.90	\$3.65	\$5.52
Usual speed 1-inch front roll in revolutions per minute.....	140	145	134
Per cent of theoretical production obtained.....	90	90	90
Pounds yarn per spindle in 6 working days.....	2.592	2.257	2.255
Pounds yarn per spinner in 6 working days.....	518	1,354	2,020
Spinner's wages per pound of yarn, in cents.....	0.1737	0.2695	0.2735

According to this computation the English ring spinner on 20s ring warp runs only about two-thirds as many spindles and gets off only about two-thirds as much yarn as the American spinner; the Japanese ring spinner on 20s warp runs less than a fourth as many spindles and gets off only about a fourth as much yarn as the American. The speed of 134 revolutions per minute for the front roll on 20s warp is as given for the United States by the Whiting Machine Works and corresponds to the usual speeds actually being operated in American cotton mills, as found by the investigations of the Tariff Board. The English speeds are much higher and the Japanese follow the English speeds as nearly as their material permits. Ninety per cent production has been allowed for all three, as the higher speeds and poorer material of the English and Japanese are compensated for by the closer oversight permitted by the fewer spindles to the operative. The foregoing is a fair comparison of the usual custom, as personally observed in all three countries, but in the yarn as sold the spinner's wages will be less per pound than those shown for the yarn as spun in Japan and England, because the English and Japanese add moisture by conditioning after spinning while the Americans do not.

WAGES OF SPINNING-MILL OPERATIVES.

The men in the picker room of Japanese mills usually average about 60 sen (say, 30 cents) a day, lap carriers about 55 sen, card strippers and minders about 60 sen, and can girls about 30 sen. The girls on the draw frames seem to average about 8 single deliveries each and to be paid about 30 sen a day. Three women usually operate two slubbers together and make on piecework about 35 sen each. On the intermediates and fine frames, with one machine to the operative, the women on piecework average about 40 sen each. Roving carriers are usually paid about 30 sen a day. Some ring spinners are paid by the day but more are paid by weight and most of them make between 25 and 35 sen each, with an average of about 30 sen a day. The young girl doffers on the ring frames are paid from 10 to 20 sen a day. Wages of reclus vary a good deal, according

to their capacity, but they seem to average about 40 sen a day. The men on the yarn-bundling presses average about 60 sen a day, while the men at the yarn-baling presses average about 50 sen.

WAGES AND PRODUCTION IN WEAVING MILLS.

The Japan Cotton Spinners' Association publishes the following statistics in reference to the production, operatives, wages, etc., in the cotton-cloth mills of Japan. The weave sheds all belong to spinning mills, but statistics concerning them are kept separate from the data already shown for the spinning mills proper.

Half years.	Looms used.	Cloth production.	Annual working days.	Daily working hours.	Average daily operatives.			Average daily wages.	
					Males.	Females.	Total.	Males.	Females.
1903:		<i>Yards.</i>							
First.....	4,992	37,978,431	157.0	13.00	666	4,212	4,878	36.9	23.7
Second.....	4,933	37,040,197	150.7	11.90	647	4,294	4,941	36.7	23.2
1904:									
First.....	5,034	40,842,338	150.6	12.10	642	4,509	5,151*	36.5	22.7
Second.....	4,747	40,105,010	163.6	14.40	682	5,043	5,725	37.1	23.0
1905:									
First.....	5,711	52,345,732	153.5	14.30	878	6,383	7,261	37.1	24.5
Second.....	7,128	62,562,390	155.5	14.00	1,100	7,311	8,411	29.7	26.5
1906:									
First.....	8,121	{ 71,168,497 a 32,784 }	139.5	13.30	1,129	7,674	8,803	39.7	26.2
Second.....	8,860	{ 66,064,918 a 62,401 }	154.2	13.20	1,366	8,200	9,566	38.9	25.5
1907:									
First.....	9,191	{ 71,302,298 a 40,172 }	156.5	13.55	1,514	8,951	10,465	41.4	26.9
Second.....	9,299	63,950,731	148.6	13.39	1,535	8,502	10,037	44.6	28.4
1908:									
First.....	9,295	73,939,315	154.7	13.54	1,432	8,414	9,846	45.4	28.7
Second.....	9,696	73,504,523	162.2	13.00	1,535	8,552	10,087	44.1	30.0
1909:									
First.....	11,019	91,032,776	160.2	13.48	1,739	11,398	13,137	44.9	29.6
Second.....	12,150	90,944,196	157.4	13.49	2,002	11,593	13,595	45.1	31.2
1910:									
First.....	13,988	105,784,012	143.0	14.20	2,047	13,288	15,335	46.1	30.3
Second.....	15,833	120,529,946	150.1	14.00	2,925	13,919	19,844	45.6	30.7
1911:									
First.....	17,484	141,300,607	149.8	14.28	2,760	17,406	20,166	46.4	32.6
Second.....	18,284	147,739,064	159.4	14.28	2,551	16,860	19,411	47.8	32.4
1912:									
First.....	19,781	165,330,835	157.8	13.40	2,716	17,678	20,394	49.6	34.3
Second.....	20,635	177,253,849	160.5	13.04	2,873	18,333	21,206	50.9	34.4
1913: First.....	22,975	204,655,996	153.8	13.19	3,264	22,034	25,298	52.8	35.8

a Dozen pieces.

Comparing the first half of 1903 with the first half of 1913, it is seen that the average looms in operation have increased from 4,992 to 22,975, or 360 per cent; the yards of cloth produced from 37,978,431 to 204,655,996, or 439 per cent; the average operatives from 4,878 to 25,298, or 421 per cent; the average wages of males from 36.9 sen (18.376 cents) to 52.8 sen (26.294 cents), or 43 per cent; the average wages of females from 23.7 sen (11.803 cents) to 35.8 sen (17.828 cents), or 51 per cent; and the average wages of all operatives from 25.5 sen (12.699 cents) a day to 38 sen (18.294 cents), or 49 per cent.

WAGES OF VARIOUS OPERATIVES.

The operatives in the weave sheds, according to the association reports, averaged 52.8 sen a day for the males and 35.8 sen for the females; as against 44 sen for the males and 28 sen for the females

in the spinning mills. In the spinning mills the largest number of operatives are ring spinners, and in the weave sheds the largest number are weavers. Though both consist almost entirely of women and girls, weaving requires more skillful work and the operatives are better paid.

In the weave sheds the spoolers seem to average not much over 25 sen a day. On the beam warpers there are usually three girls to each machine, the operator of which receives about 35 sen a day and the creelers about 25 sen each. The drawing-in girls make about 30 sen a day and their assistants about 20 sen. The slasher men get about 60 sen a day, while the head slasher man who has to look after the proper mixing of the size, etc., is paid as much as 1 yen (49.8 cents). In the cloth room the girls get 25 to 35 sen a day, while the men average about 45 sen.

In the weave shed the loom fixers operate sections of 50 to 70 looms each and average some 70 to 80 sen a day. Some of the weavers, especially those who have been in the weave room only a few months, operate only one loom apiece; a few of the more skilled operate as many as three looms on sheetings or even four on some classes of shirtings. On ordinary sheetings and drills, however, the general rule is two looms to the weaver, and only a few of the best-managed rooms will average as many as $2\frac{1}{2}$ looms to the weaver. The cuts are measured in yards and the rate is usually stated in sen per cut, though sometimes in sen per yard.

COMPARISON OF WEAVING IN JAPAN, ENGLAND, AND UNITED STATES.

One of the leading mills gave the piecework rates on their principal cloths as follows: (a) 36-inch sheeting weighing $13\frac{5}{8}$ pounds (finished) per 40 yards, made with 42 ends of No. $13\frac{1}{2}$ warp and 43 picks of No. 15 weft to the square inch, weaving rate, 0.36 sen per yard; (b) 36-inch sheeting weighing 16 pounds (finished) per 40 yards, made with 52 ends of No. 15 warp and $51\frac{1}{2}$ picks of No. 15 weft to the square inch, weaving rate, 0.45 sen per yard; (c) 30-inch T cloth weighing $8\frac{1}{4}$ pounds (finished) per 24 yards, made with 60 ends of No. 18 warp and 60 picks of No. $16\frac{1}{2}$ weft to the square inch, weaving rate, 0.50 sen per yard.

Another of the main mills stated that it paid 14 sen per cut of 40 yards on 36-inch, 44 by 42, 2.85-yard sheeting; and 24 sen per cut of 46 yards on 44-inch, 58 by 58, 4.74-yard shirting. A mill that makes a lot of 36-inch, 44 by 44, 3-yard sheeting stated that it paid 15 sen per 40-yard cut, and that though some mills paid slightly more or less because of differences in location, etc., this was about the usual rate on such goods.

In the Carolinas the ordinary good weaver on 36-inch sheeting, made 48 by 48, is paid about 15 cents a 40-yard cut and operates 8 plain looms, while on automatic looms he operates 20 or more and is paid about 10 cents a cut.

In England no weaver runs over 4 looms without assistance. According to the "Uniform list for weaving" that obtains in Lancashire, a 36-inch sheeting if made like the American with 48 ends of 13s warp and 48 picks of 14s weft to the square inch, and woven on a loom with 40-inch reed space, would be paid for at the rate of 26.28d. (53.49 cents) per 100 yards, or 21.4 cents per 40 yards.

With the ordinary good weaver, under usual circumstances, the weaving of 36-inch sheeting in the three countries compares about as follows:

	With plain looms.			With automatic looms, American.
	Japanese.	English.	American.	
Looms per weaver.....	2	4	8	20
Working hours in 6 working days.....	72	55½	60	60
Picks per inch.....	44	48	48	48
Speed of loom in picks per minute.....	180	200	170	160
Per cent of theoretical production.....	87½	87½	87½	92½
Yards cloth per loom in 6 working days.....	429	337	310	308
Yards cloth per weaver in 6 working days.....	858	1,348	2,480	6,160
Weaver's rate per 40 yards, in cents.....	7.47	21.4	15	10
Weaver's wages for 6 working days.....	\$1.60	\$7.21	\$9.30	\$15.40

With plain looms on 36-inch sheeting the English weaver runs only half as many looms as the American and gets off about 55 per cent as much cloth; while the Japanese weaver runs only one-fourth as many looms as the American and with longer hours and fewer picks to the inch gets off only about 35 per cent as much cloth. The contrast is still more pronounced between the Japanese and English on plain looms and the American on automatic looms. Over a third of the looms in American cotton mills are automatic while in English cotton mills only about 1 per cent are automatic. In Japan practically no automatic looms are operated as such, as the batteries have been removed from most of the automatic looms purchased by them and they are run as plain looms.

CONDITIONS GOVERNING PRODUCTION.

In the above comparison I have shown the same per cent of production for all three countries, which for this class of goods, is approximately correct. Where looms are operated at high speeds on poorer material this condition is about balanced by the fewer looms to the weaver. On such goods the English looms are operated at a speed of 190 to 210 picks to the minute and 200 is a fair average. They use less twist in their yarns than the Americans, and they require the weaver to do odd jobs around the looms that in the United States are done by cheaper help. These facts, with the conservatism of the labor unions, account for so few looms to the weaver. In Japan on such goods looms are operated between 170 and 190 picks per minute, and 180 is a fair average under usual conditions. With the looms at this speed on a poor grade of yarn, comparatively few of the weavers are skilled enough to operate more than two looms. In the United States the standard speed on 36-inch sheetings is frequently stated as 180 picks and some mills actually attain this or more, but as found in the investigations of the Tariff Board most of the mills prefer to run not over 170 picks to the minute and some less. With this lower speed and stronger twisted yarn made of higher grade cotton the American weaver can run up to 8 plain looms, and up to 20, or even more, automatic looms.

Under such conditions the actual productive efficiency of the English weaver on these goods, even for the same length of time,

would be less than two-thirds that of the American, and the actual productive efficiency of the Japanese weaver considerably less than one-third that of the American. If first-class Japanese, English, and American weavers were to operate looms side by side under exactly the same conditions in an American mill, their relative efficiencies would not vary by anything like that shown, but in comparing productive efficiencies one must consider the actual conditions in the different countries, with no allowance for possible efficiencies under other conditions.

In the United States, where wages are high, the main object is to obtain the maximum production from each operative; hence, speeds are moderate and each operative is given as much machinery as he can attend to. In Japan, where wages are low, the principal object is to get the maximum output from each machine with the class of material used; hence, machinery is operated long hours and at as high speed as possible, and as many operatives are employed as are necessary to get the desired result.

COMPUTATION OF WAGES—METHODS OF PAYMENT.

In the Japanese cotton mills the workers were at first paid almost entirely by the day, but there has been a steady trend toward paying by the piece. At present nearly two-thirds of the operatives seem to be paid piecework rates and only about one-third by the day. Workers in the picker room, around the cards and draw frames, doffing ring frames, in the cloth room, in the engine and boiler room, and general laborers are still paid by the day, but fly-frame tenders are usually paid by the hank, spinners and reelers by weight, and weavers by the cut.

The pay day varies at different mills, some paying at the end of every month and others twice a month; a few pay every ten days. In most mills all workers are paid on the same day, but in some the day and piece workers are paid on different days, and in some the operatives are divided into classes and each class is paid on a certain day. A few of the mills pay in mill checks, which can be traded but will be redeemed by the mill in cash on presentation at certain times by the operative or tradesman. Most of the mills deduct from the workers' wages each pay day a certain amount for guarantee or savings, and as this is returned to them only when they have finished their contract period it is known among the operatives as "Oshidome-kin," or "feet-binding money." On pay day there are also deducted from the workers' wages any fines that have been incurred, expenses for medicine, and contributions toward the workers' insurance funds, if such funds are maintained by the mill.

WORKING HOURS.

Japanese spinning mills have worked regularly night and day almost from the beginning of the industry, and night work is only discontinued by them as a short-time measure during periods of depression. The actual working time per day or night, with the rest periods deducted, amounts to 11 to 11½ hours, without any variation for sex or age of employees. The shifts are changed at 6 a. m. and 6 p. m. The day operatives get their breakfast before starting work at

6 a. m., have a half-hour for tiffin, either 11.30 to 12 or 12 to 12.30, and have dinner after the night shift takes their place at 6 p. m. In addition, most mills allow operatives a 15-minute rest at 9 and at 3 o'clock. The night shift have the same hours as the day shift. When by reason of sickness or other cause workers are missing from either shift, operatives are frequently required to piece out the time by working longer than their regular shifts. The 30-minute tiffin period and the 15-minute rest periods are not strictly followed, as in many mills the machinery does not stop and the workers are allowed off in sections. Those working on piece rates, of course, stop as little as possible in order to increase their wages.

Some mills still work the old Japanese system of stopping only on the 1st and 16th of the month, the motive power not being stopped for 14 days and nights at a stretch. Most of the mills, however, now stop either every tenth day or every seventh day. Sunday is not observed by the Japanese, but the larger mills have come to see the advantage, for both machinery and operatives, of having more frequent rest days than formerly. The Kanegafuchi, for example, as well as some of the other large mills, now stops completely four days and nights a month.

The day and night shifts are alternated every rest day, which may be therefore 7, 10, or 14 days, according to the custom of the mill. The mills observe the three national holidays, which are February 11 (the date of the Foundation of the Empire), April 3 (the date of the death of the first Emperor), and October 31 (the birthday anniversary of the present Emperor). In addition, they stop the last day of the year and New Year's Day, and also usually on the day of the year in which the mill was formally opened. This makes six yearly holidays that are usually observed; in addition, there is sometimes a day's stop for a holiday of the district in which the mill is situated. Even with these seven holidays the industry does not average a stop of one day a week during the year. For instance, during 1912 the average number of days worked by the spinning mills as a whole is shown by the association to have been 319.8 (of 22.39 hours average per day and night), which leaves only 45.2 days' stoppage in 52 weeks. In very prosperous times, as in 1907, there are not more than 35 days of rest during the year. During the 26 weeks of the first half of 1913 mills averaged only 20 days' rest.

EFFECT OF LONG HOURS.

The great majority of the operatives are women and girls, most of them under 20 years of age and a few of them under 12. The continuous work, with long hours and little relaxation, undoubtedly exercises a detrimental effect on their health. At a recent meeting of the National Medical Association of Japan, Dr. Shu Ishiwara, in referring to the bad effects of the close confinement and long hours in the cotton mills, stated that many of the girls contracted tuberculosis and on returning home spread this disease over the country. Sometimes outsiders are apt to exaggerate the trials of any kind of factory life, and some in Japan have written of the hardships of the girls having to eat breakfast before 6 o'clock; but in Japan, as well as in many other countries, the farmer's family has usually finished breakfast well before this time, and the food the girls get at the mill is

usually as good as that they would get at home. It is a fact, however, that the excessive hours worked in Japan are bad on the health in the long run, and this is one reason why the mills find it impossible to build up a permanent force. The hours seem to be longer and the conditions in this respect at least worse in the weaving mills than in the spinning mills. In spinning mills working night and day an operative can not work over 12 hours (of which only about 11 are given actually to work), except on occasions when temporarily required to piece out the work of someone missing in another shift. The weave mills, with only two or three exceptions, do not work at night, but they work the single day shift longer. Most operatives have to put in a full 12 hours at their work, and some of them work 13 or 14 hours and even longer in certain mills at certain times. A few of the weaving mills work only 11 hours, while two or three usually work night and day, which is equivalent to about 11 hours actual work for each shift. Weaving can not be carried on as well at night as in the daytime for, besides the difficulty of adjusting the pay of two operatives when the cuts may not fall evenly in the two divisions, artificial light with its shadows is not conducive to good work. The majority of the weaving mills therefore work in the daytime with one shift, though in many cases this shift is worked excessive hours, while all the spinning mills work night and day with two shifts.

FINANCIAL ADVANTAGES OF NIGHT WORK.

With spinning mills working night and day the fixed charges are distributed over almost twice as great a production, and this, of course, means a much lower cost of manufacture. At one period when the coarse yarn mills temporarily stopped night work as a short-time measure, the association reported that the output averaged a decrease of 45 per cent, from which it would seem that the night production is somewhat less than the day production. The cost of production was so increased by the stoppage of night work, however, that most of the mills found it cheaper to stop 40 per cent of their machinery altogether and to operate the remainder night and day. The manufacturers are very much opposed to any law prohibiting or materially restricting the work of women and children at night, for if this takes effect night work will have to be stopped entirely, it being impossible to use men only. When that takes place the cost of manufacture will be so increased as materially to affect the power of competition abroad.

OPERATIVES.

For the first half of 1913 the Japan Cotton Spinners' Association records the following for the whole industry:

Spinning mills:	
Total spindles installed on June 30, 1913.....	2, 287, 264
Daily average working spindles during first half of 1913.....	2, 118, 402
Daily average of operatives employed.....	107, 394
Weaving mills:	
Total looms installed on June 30, 1913.....	23, 783
Daily average working looms during first half of 1913.....	22, 975
Daily average of operatives employed.....	25, 298

For day and night work the spinning mills require about 50.7 operatives per 1,000 spindles, which is equivalent to about $25\frac{1}{2}$ operatives per 1,000 spindles for daywork only. The weaving mills show an average of 110.1 operatives per 100 looms, but two or three mills operated at night, and if they used one 12-hour day shift only they would require approximately 1 operative per loom.

Of the spinning-mill operatives, 19,167, or 17.85 per cent, were males and 88,227, or 82.15 per cent, females. Of the weaving-mill operatives, 3,264, or 12.9 per cent, were males and 22,034, or 87.1 per cent, females. This shows to what extent the mills depend on female labor.

Males are employed for overseers, loom fixers, engineers, firemen, bundlers, balers, and general outside labor, also in the picker room and slasher room. Most of the operatives around the cards and in the cloth room are females, while drawing, roving, spinning, reeling, spooling, warping, drawing in, and weaving are almost entirely female labor. Girls are so much cheaper than men that they are employed wherever possible.

DIFFICULTY IN SECURING OPERATIVES.

The employees in the mills are mainly country girls of the peasant class, with a smaller number from the poorer classes of the town population. They are mostly under a three-year contract, though some mills have a five-year contract and some have contracts for shorter periods. The girls in the country are usually ignorant of the long hours and strict oversight to which they will be subjected at the mill, and are induced to come by the prospect of saving money enough for their trousseau. About 80 per cent of them, it is stated, leave as soon as their contract is up and part of these return home, but over half are said to drift into work, good or bad, in the nearest towns. The labor is therefore mainly transient, and this has been a great drawback to raising the standard of efficiency. Some mills are attempting to build up a force of permanent trained help by offering special inducements in the way of wage increases for each year worked over the term of the first contract, by granting retiring pensions after a certain number of years, etc., as well as offering special inducements as to housing accommodations, etc., to those who marry and continue in their employ. These are not likely to have much effect until hours are decreased and wages increased, and in the meantime the mills each year are put to considerable expense and trouble in securing and breaking in green help unaccustomed to any kind of machine work.

After the Chinese War and again after the Russian War there were extraordinary increases in the amount of labor required, and even in ordinary times the number required increases annually. The population of Japan is growing rapidly, and there would seem to be little necessity of severe competition for labor, but the wages are not high enough to attract those living in the cities, except a small percentage of the poorer classes, and the long continuous work indoors is not attractive to peasant girls. So pronounced has become the difficulty in securing the large number of new hands required annually that an Osaka mill is now experimenting with girls brought from Chosen, and the general result, with the increasing cost of living, has been to force a steady increase in wages. The fact that a majority of the

workers are females and under long contracts precludes any forcing up of wages through a strike.

Only a small proportion of the help can be obtained locally, especially by mills situated in a town, and most of the mills have to send a considerable distance for girls. Different mills have certain sections of the country that they scour for help regularly, their agents sometimes making advances or using other means to get farmers to pledge to send their little daughters to the mill as soon as they are old enough—that is, 10 to 12 years of age. Most of the Tokyo mills get their help from the northeastern section of Japan, while those of Osaka depend mostly on the country sections of Hokurokudo, Sanyodo, and Shikoku Island.

METHODS OF OBTAINING OPERATIVES.

The recruiting of labor is done in various ways:

1. The mill may appoint one or more recruiting agents in special parts of the country, each of whom is paid a salary and usually an additional commission on every worker he sends to the mill.

2. The mill may have a standing agreement with a local employment agency as to the commission to be paid for every worker secured, the mill notifying the agency from time to time as to the number required. Such agencies, however, in order to make as high commissions as possible, frequently send in any labor they can pick up without regard to fitness, so that this system does not always work to the interests of the mill.

3. When short of help the mill may send out employees and try to get others through them. This method is largely used, but is rather expensive and not always productive of results.

4. When very short of help, the mill may send out one of its foremen to sections where it already has recruiting agents or connections with a local employment agency, and he acts as an inspector and also directly engages labor. The salary of such a worker is comparatively high, and it also occasionally happens that he is found to work for his own interests, in cooperation with the local agent, rather than for the interests of the mill.

The ordinary recruiting agent gets from 3 to 16 yen a month as salary. The regular commission for recruiting each worker is 1 yen, but in times of severe competition for labor it may go up as high as 5 yen a worker. The expenses of the workers for traveling and in some cases for clothes are usually advanced by the mill and afterwards deducted from the wages in monthly installments, but in many cases these expenses have to be borne entirely by the mill.

Some of the employment agents induce girls to come by picturing the higher wages they can make in the mill, the attractions of city life with its theaters, cinematographs, and other amusements, the better food they will get, and the establishments of various kinds that the mill has provided for their well-being; they may also state that if the girls find they do not like the work they can return at any time. When the girls get to the mill, however, they are usually housed in barracks inside the mill compound and are never allowed to see strangers or to go out without a chaperon, and then only on rare occasions, such as public holidays. The close confinement and the grind of steady work at long hours soon wearies most of them of

mill life, but they find that they can not get away until their contract is up; and even if they could, they rarely have enough money to return home. Frequently they attempt to escape, but are usually found and returned by the police.

EXCHANGE OF LABOR BETWEEN MILLS.

It sometimes happens in times of scarcity of labor that a very active engagement of labor takes place from one mill to another. The girls are prevented from seeing strangers as much as possible, but sometimes they are enticed away on the representation of better conditions made by an employee of another mill who has been sent to work with them, and sometimes a boarding-house keeper near a mill will be paid by another mill to send it some of the operatives who stay at his place instead of in the barracks. The Japan Cotton Spinners' Association has a rule prohibiting the enticing away of contract labor. The mills in the central Provinces also have a special agreement among them to this effect, and one mill can demand to see the list of names of operatives employed by another. In times when a mill is losing money for lack of help, however, rules and agreements are not always effective, especially as names are easily changed.

The authorities of Osaka and some other places have special police regulations in regard to the recruiting of labor, mainly with the object of preventing the engagement of labor on false representations. They require the registration of all recruiting agents or employment agencies and a return of all details of every labor contract, showing the name of the worker, the name of the mill, the wages to be received, the hours to be worked, conditions as to fines, cancellation of contract, period of contract, and all other details connected with the engagement. Fines and imprisonment are imposed where an agent is proved to have engaged a worker on false representations. These regulations also forbid the enticing away of labor under contract or the engagement of married women without the consent of their husbands or of children without consent of their parents or guardians.

Among the mills a friendly exchange of help sometimes takes place, especially in the case of new mills, which may be allowed by an older established mill to send it some of their operatives until they have become trained to certain work.

HOUSING CONDITIONS.

The Japanese cotton mills usually erect three classes of quarters for such of their operatives as have no quarters of their own, viz: (1) Kishukusha, or workers' barracks, in which parties of operatives sleep together in each room; (2) shataku, or small homes for families; (3) shitei-geshuku, or boarding houses for workers. The kishukusha are the most important and house about two-thirds of the total operatives. Most of the workers are girls from the country and these barracks are established largely with a view to their oversight and detention.

BARRACKS AT KANEGAFUCHI MILL.

The Kanegafuchi Boseki is the largest cotton-manufacturing company in Japan and employs in its various mills some 28,000 operatives. It is the recognized leader in welfare work and the other mills

follow its example more or less. At its Hyogo mill (Hyogo is a continuation of Kobe), the workers' barracks are inside the mill compound, and, with the mill proper, the warehouses, hospital, etc. are inclosed within a brick wall with watchmen at the gates. These barracks are stated to have cost about 200 yen per tsubo (about \$25 per square yard) of floor space, and each is built in the form of a two-story square, with a patio or square of ground inside with shrubs and flowers. Around this patio is an inside porch on both floors. The buildings are of the usual Japanese construction, of sandpapered wood with sliding panels of wood and oiled paper. At the entrance is the matron's office and on either side are the rooms. On the rear inside porch are rows of basins and looking glasses where the girls make their toilet. Back of this is a room with a large brick and cement bath built in the floor and here the girls all bathe together after the day's work, the water being kept very hot after the Japanese custom. The rooms are well ventilated and lighted and absolutely bare of furniture. Each of the partition walls is arranged with cupboards, and here the girls keep their sleeping quilts and clothes. The floor is covered with thick soft straw, over which is the "tatami" of close-woven matting. The rooms are about 20 feet square and 15 girls sleep in a room, each spreading out her quilt on the tatami and using a wooden block for a pillow, or rather neck rest. When the girls go to work the quilts are put in the cupboards and the inside and outside panels slid back to permit the free circulation of air through the room. Each party of girls is in charge of a matron, who is usually an old employee.

The girls dress in the usual Japanese style, wearing a kimona, no head covering, and cloth socks which reach just above the ankle and which have a division for the big toe. As the operatives usually work on stone or cement floors the police rules require the use of straw sandals to prevent sickness, but on entering the barracks the girls always leave their sandals at the door. Each pair of socks or sandals costs about 12 sen, but the company furnishes them to operatives at about 10 sen each.

A large one-story cement-floored room is used for a dining hall and is furnished with long benches and tables. The adjacent kitchen is well arranged and screened against flies. The meals are provided by the company and are stated to cost about 12 sen a day, though the worker is charged only 10 sen. The breakfast at 5 a. m. usually consists of rice and "misoshiru" (a kind of soup); with "ko-no-mono," or pickles, made of radish, beets, and other such vegetables chopped up together. Lunch and dinner consist mainly of rice, with a vegetable and occasionally fish or meat. This diet is not very extravagant, but is fully as good as, if not better than, the workers are accustomed to at home. Considering that the worker pays only 10 sen (say, 5 cents) a day, it is very good. Workers not living in the mill barracks and eating at the public dining hall are charged 12 sen a day, but most of these are married women or daughters of workmen, hence in a more favorable position in other respects. Those living in the Kanegafuchi barracks are not charged for their quarters, for the attendance connected therewith, nor for incidentals, such as baths or the charcoal that is used in a brazier on very cold nights; their only necessary expenses are for meals and such clothes as they need.

BARRACKS AT OTHER MILLS.

The conditions at this mill can not be taken as typical, for the barracks at most other mills have smaller rooms and the girls are crowded into a room in still larger parties. The sleeping quilts are not changed as often as they might be, and sometimes the day and night shifts use not only the same rooms but sometimes even the same quilts. Ventilation is often nonexistent and the rooms poorly lighted. In the Kanegafuchi as well as in other mills, however, the large number of girls sleeping together in one room is not conducive to either morals or health, and frequently leads to epidemics if a girl has contracted a contagious disease. About a third of the deaths at the mills are due to consumption, and as already stated many girls contract this disease at the mills and then spread it to other sections. In some mills the food is also much poorer than that supplied by the Kanegafuchi, and this is especially true if a mill contracts for meals with an outside party instead of looking after this itself. Some of the mills issue meal tickets, either for a day or for 10 days, but in such cases some operatives sell part of their meals to their fellow workers and sometimes children lose them.

QUARTERS FOR FAMILIES.

The "shataku," or quarters for families, supplied by the Kanegafuchi are near the mill and are small frame buildings furnished with electric light. The rental varies according to size, location, etc., but averages about 1 yen (49.8 cents) per room per month. Workers who have been with the company over three years are given house rent free on their marriage.

The family quarters are usually built in rows but each family has its own entrance. They vary as to size and number of rooms, kitchen arrangements, etc. They are built of wood in the usual Japanese style. The mill usually pays for ordinary repairs such as to the panels, the tatami, etc., but cooking utensils and other necessities are supplied by the worker. Some of the bachelor employees of the mill also reside in these quarters. Many employees living in such houses eat at the mill dining room; in other cases they may get only their rice there and prepare the other little additions in their rooms. An operative wishing to rent one of these houses from the mill must have the lease signed by some adult of good standing, according to the regular custom when renting houses. The mills usually charge their operatives less for such houses than is being charged by other house owners in the same neighborhood. The larger mills have a force of outside workers employed regularly to keep their houses in good repair, and they foster cooperative systems for procuring the necessities of life; some also employ watchmen to see that after 10 o'clock the night rest of the worker is not interfered with by any disturbance. The larger mills are now doing all they can to foster this family life, as such employees are usually more steady and serious in their work, and it is very important for the mills to increase their force of permanent trained help.

BOARDING HOUSES AND OTHER QUARTERS.

The "shitei-geshuku," or boarding houses, are usually much the poorest type of the three. They are owned by the mill and situated nearby, but are under little actual supervision. Most of them are rented to landlords, and the mills use them only for surplus help for which they have no room in other quarters.

Besides these three types of quarters owned by the mill there are also boarding houses which are absolutely independent of the mill and which are occupied by both male and female workers. The landlords of these are frequently recruiting people, and this sometimes causes trouble. The rooms are usually small and crowded and there is little ventilation and poor sanitation. The food usually costs about a third more than the price charged by the mill and is poorer in quality. Many of the workers, however, prefer to pay higher for the freer life rather than to be under the strict supervision of the mill; moreover, the landlord will give them credit until pay day. The cost of boarding and advances made by the landlord are usually paid him direct by the mill, being deducted from the worker's pay.

SAVINGS AND GUARANTY MONEY.

To educate the worker to save money and also incidentally to prevent her from running away, most mills have a system of compulsory savings and also a guaranty fund. The mills usually deduct from the workers' pay 3 to 6 per cent each pay day for such purpose, some companies allowing interest on this fund and others not. As a rule the worker can not touch this money during her stay in the factory, unless there are special reasons therefor, and it is paid her in a lump sum at the expiration of her contract. This fund is very unpopular with the employees, and many recruiting agents use the statement that the mill they represent has no such system in order to induce workers to come. The amount deducted is small but is felt by the employees. Most of the larger mills also have savings banks where they allow workers slightly higher rates on their deposits than the regular interest rates, but these are little used.

BONUSES AND FINES.

Mills try to raise the standard of work by means of both bonuses and fines. The bonuses are of different kinds. Some mills pay a bonus at the end of a certain period, usually a quarter or half year, to every employee who has worked regularly. The bonus usually is about a day's extra pay a month, sometimes more, according to the length of time she has gone without missing a day. Most mills give a bonus of 5 to 10 yen at the expiration of the contract period if the worker has been dutiful and attentive to her work. Operatives who remain in the factory longer than their first contract are usually paid yearly or half-yearly a bonus that varies according to the number of years employed. In many mills those who produce over a certain standard of quantity or quality are given a premium. There is also sometimes awarded a special recompense, or "tokubetsu-sho," as it is called, to those whose conduct in the factory and in private life

has been exemplary, to those who have done something special under dangerous circumstances to protect the factory from loss, or made a useful technical discovery, or otherwise been of special benefit to the factory where employed. In very prosperous years the operatives may occasionally participate in the profits by the mill setting aside a certain sum to be divided among them. Direct participation in profits is rather rare, though some of the mills regularly set aside sums for workmen's insurance funds.

Fines are levied if an operative does poor work or makes a wrong mixing of cotton or damages a machine; also in case of fights or bad conduct. A first offense usually entails only a warning, but a second offense may result in a fine of one-tenth to one-half of the weekly or the monthly wage, or in the offenders being barred from the factory for a week or a month, or being placed in a lower wage class. In case machinery or work is damaged purposely or by gross carelessness the employee may be required to pay the full amount of the damages, and if this is not done the guaranty fund may be confiscated for the purpose and the worker dismissed.

WELFARE WORK.

Every cotton mill in Japan maintains its own hospital, most of them with isolated quarters for infectious diseases. Physicians and nurses are permanently engaged, who, in addition to the care of the sick, make general inspections of the workers periodically to see if they have trachoma or other disease. In most of the mills the medical service is free, but the worker has to pay for medicine as well as food. In some few of the larger mills the total expenses incurred during illness, including not only medical treatment and medicine, but also special nourishing food like milk, soup, and eggs, as well as the special kimono, etc., that may be required, are all paid for by the mill. The Kanegafuchi in addition pays the expenses of those who come from the worker's home to nurse the sick, and if the patient is sent home on the advice of the physician they pay the total traveling expenses.

MUTUAL ASSISTANCE FUNDS.

At many of the mills there are mutual benefit funds, available in case of illness or death. The mutual assistance fund association of the Kanegafuchi Boseki (the name of this company is popularly contracted into Kanebo) is called the "Kanebo-kyosai-kumiai" and is an institution that has been imitated by several other large mills. Every employee of the Kanegafuchi is compelled to join this association and 3 per cent of the monthly earnings of each employee is regularly deducted for this purpose. The mill pays into the fund an amount equal to that contributed by the employees and there are also special grants made to this fund by the mill directors from time to time when profits are large. This system is really compulsory insurance against sickness, accident, and old age, and is patterned somewhat after the national compulsory insurance laws of Germany.

Any employee of the Kanegafuchi on becoming ill will receive one-half of his or her daily wages, after the first four days, on the physician's certificate. This support is continued for three months if

necessary, and can be extended to five months for those who have worked over five years. The period during which a man has necessarily had to be absent from the mill for service with the colors, either in the army or navy, is counted to his credit if he has worked over five years. On certificate from the physician, women are given an allowance for a period before and after childbirth.

In case of involuntary accident ¹ the regular full wages are paid, on the usual certificate from the physician; if the wage is a variable one, the average daily wage is taken as a basis. If permanently incapacitated by an accident in the mill, or if he becomes a cripple and his capacity is thereby reduced, the operative on leaving the factory receives a sum equal to two years' pay, not, however, to exceed 500 yen, if approved by the committee of the association. If he remains in the factory he is paid the difference between his previous wages and what he can earn. If the individual returns to work and is not crippled but can not do his work as before he will receive, at the discretion of the committee, one bonus of 5 to 50 yen, and, during the period he still works, the difference between his former wages and what he can earn. This support will also be given when wages later on increase. In case the operative is not permanently crippled but can not or should not work any more in the factory, he will be allowed up to 300 yen as compensation.

In case of ordinary deaths in the factory, funeral contributions may be paid up to 15 yen and to the family an amount not exceeding 100 yen; in case of death from accident, the funeral contribution will be from 15 to 30 yen, and the amount to the family from 100 to 300 yen.

Pensions vary as follows:

1. Males working 10 years or females working 5 years will receive a pension, in addition to their wages, during their further employment in the factory.

2. Males working 15 years and females working 10 years will receive, even when they leave the factory, a pension for a period of 15 years.

3. When a male at the age of 50 or over and a female at the age of 45 or over is incapacitated by illness from further work they will receive, on certificate from the physician, a pension for the 5 following years, even if they have not worked more than 5 and 3 years, respectively.

4. When a worker, on account of illness, or when ordered by the factory, has to give up his work for a certain period, even though he has not worked as long as stated in article 1, he may receive a yearly pension according to the time worked. A change in the period for which a pension is guaranteed can only be made at the decision of the association.

The minimum of the yearly pension is 15 per cent for males and 10 per cent for females of the usual salary or wage. The pension increases by 1 per cent yearly; however, after leaving the factory the rate does not change.

¹ The following appeared in a recent issue of "Commerce" published in Tokyo: "There is no insurance on a large scale for anything in Japan save life, fire, and marine. Accident, boiler, conscription, fidelity, and sickness are represented by only one company in each class, while insurance against such risks as earthquakes, burglars, employers' liability, etc., can not be placed in Japan."

BENEFITS PAID BY MILLS—AMUSEMENT FEATURES.

In addition to this assistance given through the "Kanebo-kyosai-kumiai," workers are also given assistance by the Kanegafuchi direct. In case of sudden death in consequence of accident during work or in case of death during the period of physician's treatment, the mill itself pays the family an amount up to 100 yen. Those who have become crippled by accident or on account of injury and are unable to return to work are given 50 yen by the mill. The same amount is also given to those who are crippled, or whose capacity is reduced by an accident, when they leave the factory.

In addition to the regular hospitals at the various mills the Kanegafuchi has a sanatorium where workers are sent in special cases to recuperate.

The girls in the mill barracks are rarely allowed outside the mill compound, but mills like the Kanegafuchi and some others have erected theater or amusement halls for them and at intervals the mill secures a company of Japanese actors or a cinematograph for their entertainment. A general garden party for the workers is given by some of the mills once a year, and in addition in the spring or summer parties of workers may be taken on picnics to some near-by place of interest.

EDUCATIONAL INSTITUTIONS.

Some of the mills also have educational institutions. About a fourth, at least, of the workers are from 10 to 15 years of age and many of these come from the country and have little or no education of any kind. In almost every mill there is a room in the barracks or a whole building that is used as a school, where there is given instruction in reading, writing, arithmetic, sewing, cooking, etc. The teachers are either qualified public-school teachers, special mill employees, or the matrons in charge of the girls. Lessons are given by some mills to classes twice daily, at one time for those who have worked during the day and at the other for those who have worked during the night; but after 12 hours or so of work it is no wonder that this free schooling is received with anything but gratitude by the employees.

The Kanegafuchi has a two-story brick building at its Hyogo mill that is used as a school. Technical instruction is given to special classes of male operatives who work half time and are instructed the other half. This is a free course, but after taking the course the operative has to work three years with the mill. In this way the mill builds up a competent set of foremen and section men and binds them to its interests.

KINDERGARTEN—COMPANY STORES.

The Kanegafuchi has a kindergarten, which is called "Yochiyen," and an infants' nursery, which is called the "Nyujihoikusho," to relieve the married workers of care in connection with their young children. These establishments take care of the children while the mothers are at work, the "Nyujihoikusho" taking those up to

3 years of age and the "Yochiyen" those from 3 to 6 years. This is done by the mill free of charge.

Many mills also operate stores, where the workers can buy their necessities at lower prices than those ruling elsewhere.

Some mills spend 5 to 10 per cent of their profits in beneficial institutions for their workers. As the erection of workers' quarters is stated to average a mill about 2 yen per operative and expenses in connection with the securing of an operative are from 3 to 10 yen per head, it is seen that operatives cost the mill more than is directly shown by the wages paid. On the other hand, owing to compulsory insurance schemes, guarantee and savings funds, etc., the worker does not receive quite as much wages actually as she does nominally.

FACTORY LEGISLATION.

Despite attempts by the authorities of Japan to restrict the hours of work in the cotton mills and to regulate night work, especially with reference to the employment of women and children, the cotton manufacturers have successfully opposed the plan. A tentative law was finally forced through in 1911, but there has been no attempt to promulgate it so that it would go into operation. In Japan a law after being passed by the National Diet is not effective until it has been promulgated, and the factory law is not the only one that is now on the statute books of Japan with no more force than a threat of what may some day be made effective.

In 1886, with the establishment of various industries in Japan, especially cotton manufacturing, the need was felt of some legal control over such matters as labor contracts, the employment of women and children, etc., and the Government expressed an opinion that some law was needed that would clearly define the legal relation of employer and employee. However, nothing was done. In 1897, on the occasion of the meeting of a high commission for agriculture, commerce, and industry, called "No-sho-ko-kotokaigi," the matter was again brought forward. A proposed factory law was published in 1898, and republished in 1902, with revisions and additions. The public in general was in favor of the proposed law; as also was the Japan Cotton Spinners' Association, which in 1901 had appointed a special investigating committee that reported favorably on most of the features, but urged that if passed all details should be clearly stated in the law and not left to be amplified by means of ministerial regulations, as is usually the case with Japanese laws. Owing to political conditions while the country was preparing for its war with Russia, and later to the war and subsequent conditions, this bill was not finally placed before the Diet until the spring of 1910, after some changes had been made in the different provisions.

OPPOSITION OF SPINNERS TO PROPOSED LAW.

When this proposed law was before a committee of the Diet, the Japan Cotton Spinners' Association opposed it on behalf of the cotton industry. Aside from the fact that the proposed law contained few definite regulations and left the actual details of its execution to the discretion of the ministers, the association fought it because it pro-

vided that after five years no child could be employed under 14 years of age and that after 10 years no female could be employed on night work. The association stated that the age limit for employment should not be higher than 13 and that there should be no prohibition of night work for any employee of either sex over 13 years of age. It was urged that this was exactly the age at which the children were best fitted for spinning. The Japanese mills could not possibly work with male labor only, and if night work were prohibited the export trade would suffer. Japanese cotton yarns and cloth, it was claimed, were succeeding on the Manchurian and Chinese markets in spite of the Indian, American, and English competition, though the products of foreign mills were better and their factories had the advantage of cheaper raw materials and lower taxes. The principal cause of the Japanese success abroad had been the continual day and night work in the Japanese mills, which lowered the cost of production. Prohibition of night work, it was urged, would mean the loss of these markets to Japanese products and the cotton industry would cease to develop. For that reason night work for females could be prohibited only when the industry was as favorably placed as in foreign countries in regard to raw material and taxes.

The Government agreed to take into consideration the views of the spinners, and as it was found impossible to obtain a majority in the Diet, the Government finally withdrew the bill.

LAW PASSED BY DIET.

In 1911 another proposal was brought forward that had been much modified, and in spite of the opposition of the association this was finally passed on March 28, 1911. This factory law is as follows:

IMPERIAL ORDINANCE No. 46, ISSUED MARCH 28, 1911.

ARTICLE I. The present law shall apply to factories coming under any of the following clauses:

1. When a factory employs ordinarily not less than 15 operatives.
2. When a factory is engaged in injurious work or one that is judged injurious to health.

Factories for which the application of the present law is deemed unnecessary may be exempted by imperial ordinance.

ART. II. Factory owners are forbidden to employ at the works persons who are not more than 12 years of age. However, this does not apply to persons not less than 10 years of age who are already employed at the time of the enforcement of the present law.

The executive authorities may allow the employment of persons not less than 10 years of age in light and simple kinds of work, subject to specified conditions.

ART. III. No factory owner is allowed to permit male persons not more than 15 years of age and female operatives to work for more than 12 hours a day.

The Minister of State concerned may, within the limit of 15 years from the date of enforcement of the present law, permit the extension of the working hour by not more than two hours, according to the nature of the work.

Even where the different workshops are separately situated, the number of hours worked by an employ at each will be added together, in applying the provisions of the foregoing two clauses.

ART. IV. No factory owner is allowed to permit male operatives of not more than 15 years of age and female operatives to work between the hours of 10 p. m. and 4 a. m.

ART. V. The foregoing article will not apply to cases coming under the following clauses; provided that after the lapse of 15 years from the date of the enforcement of the present law it is forbidden to put to work males who are not full 14 years of age and female operatives between the hours of 10 p. m. and 4 a. m.:

1. When the nature of the work requires that it should be executed without being held over.

2. When the nature of the work requires night work.

3. When owing to special seasons, the nature of the work requires uninterrupted continuation day and night, and when the operatives are divided into two or more groups and required to attend to the work by turn.

The Minister of State concerned shall determine the kind of works that come under the foregoing clauses.

ART. VI. When the operatives are divided into two or more groups and required to work by turn, the provisions mentioned in Article IV shall not apply for the space of 15 years from the date of the enforcement of the present law.

ART. VII. Factory owners shall allow for males not more than 15 years of age and female operatives at least two holidays per month; and shall give at least four holidays when the operatives are divided into two groups and required to attend to the work by turn, when there is day and night work at night between 10 p. m. and 4 a. m.; and also in the cases coming under subclause 2, clause 1, Article V; and when the duration of work in a day exceeds 6 hours a rest of at least 30 minutes and, when it exceeds 10 hours, that of at least one hour shall be given in an interval of the work.

When the operatives are divided into two groups and required to attend to work by turn between the hours of 10 p. m. and 4 a. m., hours of work for each group shall be changed every ten days at least.

ART. VIII. In the event of natural calamity or other unavoidable occurrence, or when it is feared such an occurrence is impending, the Minister of State concerned may suspend the application of the provisions in Articles III to V and Article VII, such suspension to apply to specified kinds of work and districts.

In the event of extraordinary necessity occasioned by unavoidable circumstances, a factory owner may, by sending in a report on each occasion to the executive authorities, prolong, within the maximum period of seven days in a month, the hours of work for not more than two hours a day.

For work which requires special activity on account of the season, a factory owner may, by previously securing the approval of the executive authorities as to the period, prolong for that period the hours of work for not more than one hour within the maximum limit of 120 days in a year. In this case the provision in the preceding clause does not apply to the period for which the approval of the executive authorities has been obtained.

ART. IX. Factory owners are forbidden to employ male operatives not more than 15 years of age or female operatives for cleaning, oiling, inspecting, or repairing a machine in motion or the dangerous parts of power transmission appliances; or to fix or take off belts or ropes on machines in motion or to do any other dangerous work.

ART. X. Factory owners are forbidden to employ persons not more than 15 years of age in work that requires handling of poisonous or other injurious stuffs, or explosive or inflammable substances; or at places where dust or powder is raised to an unusual extent or noxious gas is generated, or at other places which are dangerous or are hygienically injurious.

ART. XI. The nature of work coming under the two preceding articles will be determined by the Minister of State concerned.

The provisions in the foregoing article may, subject to the decision of the Minister of State concerned, apply to female operatives of not less than 15 years of age.

ART. XII. The Minister of State concerned may determine special provisions for restricting or forbidding the work by those who are suffering from illness or women enceinte.

ART. XIII. In case a factory, or its accessory buildings or equipment are judged risky or are prejudicial to health, morals, or the public interest, the executive authorities may, according to ordinance previously determined, order the owner to carry out suitable measures of prevention, or may order the suspension of whole or part from use.

ART. XIV. Officials in charge are authorized to inspect a factory or its accessory buildings. They will, in such cases, carry testimonial evidence establishing their identity.

ART. XV. When, in the discharge of his duties and from no gross fault of his own, an operative is injured or contracts illness, or dies, the factory owner must give relief, according to regulations specified by imperial ordinance, to the operative or to his family.

ART. XVI. In regard to the personal registration of apprentices or those about to become such, a certification free from charge may be demanded of the register by the apprentices or those about to become such, or by factory owners or their legal representatives, or by overseers of factories.

ART. XVII. Matters relating to the engagement or discharge of operatives, to the control of employment agencies, and those relating to apprentices will be determined by imperial ordinance.

ART. XVIII. Factory owners may appoint a factory overseer invested with full power in regard to the factory.

When a factory owner does not reside in a place coming under jurisdiction of this law, he must appoint a factory overseer.

For the appointment of a factory overseer the approval of the authorities is required. This provision does not apply when the selection is made from among the directors or managing officials of the company, or those who, according to law or ordinance, represent juridical persons, or representatives of such persons.

ART. XIX. Factory overseers mentioned in the preceding article are to represent the factory owners in regard to the application of the present law or ordinance pertaining to it; however, this may not apply to cases coming under Article XV.

In the event of a factory owner being a minor not possessing equal competency as an adult in regard to business or is one who is declared incompetent, or in the case of a juridical person not possessing a factory overseer, the preceding clause shall apply to a juridical representative of such factory owner, or his directors or managing officials; also to officials representing the company, its directors or managing officials, or those who represent it according to law or ordinance.

ART. XX. Any one infringing the provisions of Articles II to V, VII, IX, or X, or disobeying an injunction issued in virtue of Article VIII, shall be subject to a fine not exceeding 500 yen.

ART. XXI. When without a justifiable cause, the inspection of a competent official is refused or obstructed, or when reply is not made to his questions, such person will be subject to a fine not exceeding 300 yen.

ART. XXII. When his representative, the head of a family, its members, persons residing with the family, employees or others engaged in the work have committed an act contrary to the present law or ordinances pertaining to it, a factory owner or his representative, as specified in Article XIX, may not plead innocence on the ground that he was not cognizant of such act. However this may not apply to the case when he has taken suitable steps concerning the management of the factory.

Factory owners or their representatives according to Article XIX shall not be exempted from penalty specified in the law on the ground of their not having known the age of operatives. This shall not apply when the factory owners, or their representatives according to Article XIX, or employment agent have been freed from fault.

ART. XXIII. Any person who is dissatisfied with the ruling of the executive authorities in virtue of the present law may file a petition; when he thinks that his right has been illegally infringed, he may apply for administrative litigation.

ART. XXIV. For factories not coming under Article I, but using motive power, the Minister of State concerned may apply the provisions of Articles IX, XI, XIII, XIV, XVIII to XXIII.

ART. XXV. The present law or ordinances pertaining to it correspondingly apply to Government or public factories, excepting provisions in regard to the factory overseer and penalty.

In regard to Government factories the offices that respectively control them carry out, in accordance with the present law or ordinances pertaining to it, duties that fall within the purview of the executive authorities.

SUPPLEMENTARY RULE.

The date of putting this law into effect will be determined by imperial ordinance.

This law has been opposed by Japanese mill men as the first step toward regulations that may in time lessen the large profits they have been accustomed to make. In most of its provisions, however, it has been carefully modified so as to make few changes at the beginning.

Japanese spinning mills all work night and day with two shifts, and two or three of the weave mills do the same. Most weave mills work about 12 hours, though a few work longer hours. There is now no minimum age limit, and though the larger mills claim that they do not wish to employ children under 12, a fairly large number are actually employed on doffing and such work who are not much over 10 years of age, and some of them even younger.

LAW NOT YET IN FORCE.

The proposed law, which has not yet been promulgated, provides that mills can not employ children under 12, except those who are employed at the time of promulgation and are 10 years of age or over. This is modified further to say that the authorities may permit the employment of children of 10 years or over for light work. The law prohibits night work for all females and for males under 15, but modifies this by saying that where the operatives are employed in two or more shifts (as is the case with night work in the cotton mills) this provision shall not actually take effect for 15 years after promulgation.

In December, 1913, according to the daily papers of Tokyo, the Department of Agriculture and Commerce asked the Department of Finance for 50,000 yen to make the necessary preparations for the enforcement of this law by starting to train inspectors, etc. The Department of Finance rejected this request on the ground that the time was not ripe to initiate this law, and that its enforcement at the present time might dampen the enterprising spirit of business men, a possibility that ought to be studiously avoided. They therefore decided in favor of postponing the execution of the law and disapproved any outlay looking to its enforcement.

The latest news is that the authorities are considering promulgating the law in 1915, and if this is done the cotton mills of Japan will have to stop night work after 1930.

CAPITALIZATION AND PROFITS OF MILLS.

During 1913 the Japanese cotton mills made larger profits than have fallen to their lot since the prosperous period in 1905-1907. The industry in Japan has several disadvantages to contend with, but there are stronger elements in its favor, and in spite of periods of depression the industry, in the long run, has been a very profitable one.

COST OF MILLS AND EQUIPMENT.

The first cost of cotton mills in Japan is high as compared with other countries. For an ordinary ring-spinning mill, without any weaving, the first cost complete with buildings, machinery, and equipment, in England is about 32s. 6d. (\$7.91) per spindle; and mule-spinning mills in England cost only 27s. 6d. (\$6.69) per spindle. In the United States a ring-spinning mill on ordinary counts averages about \$11 per spindle and in Germany about 55 marks (\$13). In Japan the first cost complete of a ring-spinning mill is stated to be about 50 yen, say, \$25 per spindle. The figure for Japan is probably not exceeded anywhere in the world, except Brazil.

It should be stated, however, that much of the expense in establishing a mill in Japan is not necessary in all other countries. For instance, the first cost of 50 yen per spindle is usually made up of about 25 yen for machinery and not over 10 yen for mill buildings, including warehouses, and the land necessary therefor; the remainder is taken up in the land, houses, hospital, dining quarters, and kitchen, etc., for housing and caring for the help. Japanese mills usually take up much space and have large grounds. Most of the mills are one story, though the few located in the more central part of towns may be two to four stories. In addition to the space taken up by the mill proper with its warehouses, fuel supply, etc., there is usually inclosed with the mill a very large space which contains the dwellings and other buildings for the operatives, most of whom are women and girls who are brought from a distance. The mill buildings are of brick, with floors of stone flags, brick, or wood, but the surrounding dwellings, etc., are of wood.

The weave sheds are of brick and always one story, with the regulation saw-tooth roof. Owing largely to the necessity for large grounds and buildings, the first cost, like that of the spinning mills, is high. The first cost of a weave shed complete, to make ordinary goods on plain looms, without spinning, is about £36 (say, \$175) in England, 1,000 marks (\$238) in Germany, and about \$245 in the United States. These are the costs complete, without figuring in any land, but the cost of the land necessary for the mill proper would be a comparatively small item. In Japan the first cost of a weave shed complete, with the larger amount of land, the houses, etc., that are necessary for retaining the operatives, is about 800 yen (say, \$400) per loom.

EQUIPMENT LARGELY ENGLISH.

Most of the machinery is of English make. The first mill in Japan used Platt Bros.' machinery and this firm (for whom the Mitsui Bussan Kaisha is agent in Japan) still supplies nearly all of the spinning machinery. Dr. Hikotaro Nishi, in his work on the Japanese cotton-spinning industry, states that of some 1,830,000 spindles in the first half of 1909, about 1,600,000 came from Platt Bros. & Co., of Oldham. This is about 87 per cent of the total. Comparatively small amounts were supplied by Dobson & Barlow, of Bolton; Asa Lees, of Oldham; J. Hetherington & Sons, Brooks & Doxey, Howard & Bullough, and others. The ring-spinning frames that make up the bulk of the equipment are all on the English style, with one leather-covered, weighted front roller and two bare iron self-weighted back rollers; the frames are also long, usually 360 to 400 spindles to a frame. There do not appear to be any American spinning frames in Japan. The number of mule spindles has decreased as the number of ring spindles increased, and the Japanese now make 60s and even 80s on ring spindles. The other machinery in the spinning mills is also of English make, with the exception of a few twistors, winders, etc., of American make.

The great majority of the looms and other machinery in the weave sheds are of English make, and the overpick loom is the most widely used. There are a few American looms, but at a mill at Osaka I was shown 600 Draper automatic looms that were being operated 2 looms to a weaver with the batteries and warp-stop motions removed. The manager stated that their yarn was not strong enough to use the automatic attachments, as these required more perfect yarn than they could make with their mixings, and also that their loom fixers were not skilled enough to keep the looms adjusted; hence high-priced labor-saving machinery is now put to the same work as common looms.

COST OF MACHINERY.

The manager of a company that operates mills in both China and Japan gave me the prices paid for English machinery for additions to its spinning mills in both countries at the beginning of 1913, as follows, the prices being for delivery in Shanghai and Kobe, including import duty and landing charges:

Machines.	Price delivered in Shang-hai.	Price delivered in Kobe.	Machines.	Price delivered in Shang-hai.	Price delivered in Kobe.
	<i>Yen.</i>	<i>Yen.</i>		<i>Yen.</i>	<i>Yen.</i>
Hopper bale opener.....	888	1,034	Drawing frame.....	1,874	2,183
Hopper feeder.....	870	1,013	Slubber, 80 spindles.....	1,231	1,434
Crighton opener.....	903	1,052	Intermediate, 114 spindles....	1,271	1,481
Exhaust opener.....	2,559	2,982	Roving frame, 144 spindles....	1,219	1,420
Intermediate lapper.....	1,364	1,593	Ring-spinning frames, 400		
Finisher lapper.....	1,402	1,633	spindles.....	1,675	1,952
Card.....	929	1,083			

In giving these the manager stated that at the end of 1913 the prices quoted by the makers, Howard & Bullough, were 20 per cent higher, which is ascribed to higher materials, wages, and freights. The manager also said that the highest wages they paid an ordinary operative (that is, excluding the foremen) was 50 sen a day in Japan and the

equivalent of 30 sen a day in China. This difference in cost of machinery and labor should make China a strong competitor of the Japanese in the future, if the Chinese mills can get their help trained and their tariff raised.

POWER MACHINERY.

Not only the mill machinery proper but the engines and boilers, etc., are practically all imported from England, the usual boiler being the internal-fired Lancashire shell type. The majority of the mills use steam power direct, driving from the flywheel with ropes, but a few now use steam turbines for generating electric power and the director of one of the largest mills stated that this is regarded as the coming method. One mill uses gas engines and two use waterpower direct. The Japan Cotton Spinners' Association shows an average of 2,118,402 spindles in operation during the first half of 1913, and an actual horsepower developed in the spinning mills of 68,135, which is 31.1 spindles to the horsepower. Of this total, 63,468 horsepower was steam and only 4,667 water or electric. The coal used during this half-year by the spinning mills amounted to 763,358,956 pounds, which is stated as being 3.489 pounds per horsepower per hour. This coal was stated as averaging 25.76 yen per 10,000 pounds, which is \$2.874 per long ton. The price of coal in Japan is rising steadily.

COST OF COTTON.

Indian, American, and Chinese cotton cost the mills in Japan more than they do the mills in the countries where cotton is raised. This disadvantage, however, is overcome by mixing the different kinds so that on coarse counts for goods such as sheetings and drills the cost of the raw material is less in a Japanese mill than in an American mill (the latter using all American cotton), though the quality is not so good; at the same time the yarn and cloth made from these mixings is superior in quality to that from Indian and Chinese mills, which on most goods use only their native cottons. In addition to lowering their primary cost by mixings, the Japanese mills, like the English and Indian mills, gain in the selling weight of their yarn by the addition of moisture from conditioning; their coarse cloths are not only more cheaply constructed than the American, by using a few less threads, but most of them are also sized to a considerable extent.

TAXES AND INTEREST.

Taxes in Japan, which were raised after the Chinese War and much more after the Russian War, are now very high. In addition to the regular taxes, there is a 10 per cent textile consumption tax that must be paid by the wholesalers, and, though it is not collected on goods for export, it tends to hamper business. There is at present an extended agitation for the removal of the business tax, the textile consumption tax, and the transit tax, but with the present state of finances it does not appear that the Government can renounce the revenue thus brought in.

Interest rates in Japan are still high as compared with those ruling in England or even the United States. Generally the working capital of the mills is practically used up, especially during the months of May, June, and July, and in general from March to September, in carrying

cotton, and large loans have to be obtained from the banks at comparatively high rates of interest to carry on the business. Help has been extended by special Government banks which grant lower rates than the regular banks for floating bonds, financing exports, etc., but the general high rates of interest have been a great drawback to the industry. In spite of large profits made during the Russian War boom times and during 1912 and 1913, the mills, with the exception of the few largest, have to use borrowed working capital to a large extent.

Japanese labor is cheap but inefficient. In their opposition to the enforcement of a law regulating night work and the work of women and children the manufacturers claimed that their chief means of maintaining competition in foreign markets was their ability to work continuously night and day and thus reduce costs by getting the maximum output from high-priced plants that labored under high taxes and high interest charges.

FINANCIAL RECORD.

Since the middle of 1901 the Japan Cotton Spinners' Association has published semiannually statistics showing the financial status of all the limited-liability companies in the cotton manufacturing industry. These returns do not include all the mills, because a few are owned privately, but the amount of business not included is a small proportion of the total and the figures practically show the status of the industry as a whole. The figures for the 12 years, from the middle of 1901 to the middle of 1913, are as follows:

Half years.	Number of companies.	Capital.		Reserve fund.	Liabilities.	Permanent investment.	Depreciation written off.
		Authorized.	Paid-up.				
		Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
1901: Second	56	40,040,400	34,645,435	3,712,384	.....	.....	.....
1902: First.....	54	37,430,400	33,280,442	4,094,139	.....	.....	.....
Second.....	46	35,743,400	31,659,521	4,232,214	.....	.....	.....
1903: First.....	39	36,030,900	31,628,970	4,502,372	.....	.....	.....
Second.....	40	37,430,900	32,904,716	5,122,192	.....	.....	.....
1904: First.....	38	36,750,900	32,342,873	5,602,692	.....	.....	.....
Second.....	37	35,900,900	32,262,230	6,080,742	.....	.....	.....
1905: First.....	38	39,018,400	34,469,618	8,031,601	5,751,776	40,532,458	2,115,881
Second.....	35	39,338,850	34,331,700	10,488,917	5,565,837	39,048,716	2,241,915
1906: First.....	35	42,988,850	35,468,958	13,299,737	3,875,869	38,043,242	2,489,847
Second.....	32	44,188,850	36,546,350	16,205,504	3,995,275	37,298,315	2,042,927
1907: First.....	35	83,264,750	50,932,238	19,120,271	3,160,866	43,736,965	1,503,757
Second.....	27	75,121,800	52,754,125	21,728,094	5,082,629	44,478,855	1,259,310
1908: First.....	28	86,076,800	57,193,538	23,120,646	8,101,603	51,158,744	332,397
Second.....	27	85,616,800	57,595,385	23,646,256	11,637,640	57,286,769	628,428
1909: First.....	27	85,816,800	58,041,072	24,075,380	17,626,686	68,833,472	1,137,406
Second.....	27	95,066,800	62,759,000	25,090,237	16,739,174	82,451,512	2,105,903
1910: First.....	26	92,566,800	64,034,540	25,980,335	23,768,543	91,163,244	756,341
Second.....	26	92,566,800	65,209,013	26,490,926	21,697,424	95,011,924	706,020
1911: First.....	24	87,187,650	61,541,945	25,879,277	24,445,804	93,980,925	1,170,852
Second.....	25	88,587,650	63,408,868	26,351,506	21,225,398	96,211,801	945,650
1912: First.....	24	85,987,650	61,839,992	26,751,202	20,277,265	96,764,768	1,028,509
Second.....	25	92,658,900	68,439,245	27,834,430	20,089,219	96,439,900	4,132,783
1913: First.....	25	100,758,900	75,722,484	30,092,279	20,515,178	96,336,770	5,014,724

Half years.	Amount brought forward.	Net profit.	Dividend declared.	Amount placed to reserves.	Amount carried forward.	Rate of dividend per annum.
1901:	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Per cent.</i>
Second		1,382,168	1,078,305	440,107		6.2
1902:						
First		1,877,058	1,797,445	563,436		10.8
Second		377,510	714,170	201,676		4.5
1903:						
First		1,601,294	1,288,723	458,312		8.1
Second		1,876,439	1,346,711	496,045		8.2
1904:						
First		1,650,301	1,066,081	487,774		6.6
Second		2,863,421	1,550,903	806,152		8.5
1905:						
First	524,142	5,692,762	2,951,957	2,486,267	778,680	17.1
Second	1,109,296	7,370,339	3,765,490	3,192,951	1,521,194	21.9
1906:						
First	1,521,195	7,076,903	3,903,994	3,045,810	1,648,294	22.1
Second	1,610,070	7,886,391	4,462,409	3,031,494	2,002,558	24.4
1907:						
First	2,038,825	8,648,926	5,010,674	3,115,954	2,594,457	19.7
Second	2,572,032	7,690,491	5,682,311	1,910,435	2,669,777	21.5
1908:						
First	2,557,613	3,373,014	3,282,575	630,727	2,343,475	11.5
Second	2,461,033	3,257,739	2,933,864	577,656	2,425,252	10.2
1909:						
First	2,124,627	4,528,701	3,372,730	964,208	2,316,390	11.6
Second	2,603,861	4,651,674	3,550,692	960,242	2,751,601	11.3
1910:						
First	1,400,347	2,962,767	3,465,028	775,033	549,047	10.8
Second	1,170,046	1,249,250	2,694,193	431,320	369,237	8.3
1911:						
First	93,192	3,886,754	3,136,993	649,996	327,958	10.2
Second	302,080	3,890,887	3,283,118	597,028	312,821	10.4
1912:						
First	2,333,904	5,698,730	3,801,892	1,330,219	3,150,323	12.3
Second	3,150,523	8,934,670	4,758,405	2,289,940	5,036,848	13.9
1913:						
First	5,044,087	9,633,832	5,439,897	2,604,680	6,633,342	14.4

The difference between the amounts shown as brought forward and those shown as carried forward from the preceding period is due to the adjustment of working capital required and the reserve fund.

FOUR ERAS IN INDUSTRY'S HISTORY.

During the early years of the twentieth century the Japanese cotton industry passed through four distinct periods: (1) A period of depression, (2) the "Golden Era" of the industry, (3) a period of reaction and dullness, and (4) another period of advancing prosperity.

The Japanese cotton-spinning industry had no appreciable financial success from the time of the Boxer troubles in 1900 up to the latter part of 1904, though there had been a certain improvement during 1903. The data of the association in this line run back to only the middle of 1901. The improvement began after the middle of 1904, but did not show itself fully until the next semiannual period. Taking the 3½ years from June 30, 1901, to December 31, 1904, the paid-up capital of the limited-liability companies averaged 32,674,312 yen, and on this there were made average yearly net profits of 3,322,340 yen, or 10.17 per cent, while the average yearly dividends amounted to 2,526,382 yen, or 7.73 per cent.

During the boom that followed the initial successes of the Japanese in the Russian War, the industry enjoyed the most profitable period of its history. This period is usually considered as lasting from the middle of 1904 to the middle of 1907, as in the latter part of 1907 unmistakable signs of an ebb in the tide of prosperity appeared.

However, the period may be taken as embracing the years 1905, 1906, and 1907, and during this time the paid-up capital averaged 40,750,498 yen, on which were made average yearly net profits of 14,788,604 yen, or 36.29 per cent, while the average yearly dividends amounted to 8,592,278 yen, or 21.08 per cent.

During the years 1908, 1909, 1910, and 1911 there was a dull period, during which the mills ran much short time. During these four years the paid-up capital averaged 61,222,920 yen, and on this there were made average yearly net profits of 6,950,196 yen, or 11.35 per cent, while the average yearly dividends amounted to 6,429,798 yen, or 10.5 per cent.

From the beginning of 1912 the tide has turned and there have been increasingly large profits. During the 1½ years from January 1, 1912, to June 30, 1913, the paid-up capital averaged 68,667,240 yen, and on this there were made average yearly net profits of 16,178,154 yen, or 23.56 per cent, while the average yearly dividends amounted to 9,333,462 yen, or 13.59 per cent.

DEPRECIATION AND RESERVE FUNDS.

During the first period the reserve funds averaged only 4,763,819 yen, and as a large part of the profits was paid out as dividends the amount carried forward at the end of each semiannual period was small, averaging only 493,357 yen. During the second period the reserve funds were largely augmented and averaged 14,812,354 yen; the liabilities were also reduced and in addition to writing off a considerable amount as depreciation and installing new machinery and equipment, an average of 2,797,151 yen was carried forward at the end of each semiannual accounting for working capital. During the third period the total reserve funds increased to an average of 25,079,320 yen, but the liabilities were increased in much larger proportion, and the amounts written off for depreciation were greatly reduced. Some of the mills showed losses and others were able to pay their dividends only by drawing on their reserve funds. During the fourth period the reserve funds have been increased, the liabilities reduced, increasingly large amounts written off for depreciation, and increasingly large amounts carried forward as working capital, in addition to raising the dividend rates. During the third period the amount carried forward semiannually as working capital averaged only 698,276 yen, but during the fourth period it has averaged 2,074,946 yen. This is an important factor in reducing the cost of production, for it relieves the industry of much of the heavy interest paid on borrowed working capital.

The amount written off for depreciation of buildings and machinery varies greatly from year to year and depends entirely on the condition of the industry. Before the Russian War most of the mills paid but slight attention to this item, but the tendency now is to write off substantial amounts whenever financial conditions permit and to keep the plants more up to date by accumulating reserve funds with which to replace worn-out and obsolete machinery and to keep the buildings and equipment in good shape. Owing to the continuous operation at high speed night and day and the lack of skilled and careful workmen to attend to the upkeep, machinery depreciates in Japanese mills rather rapidly. The mills to-day

have a considerable amount of machinery that ought to be on the scrap heap, but the larger mills have set the standard for replacing worn-out machinery, and the tendency is for the others to follow their example whenever they have very large profits.

According to the commercial law of Japan a limited-liability company must set aside at least 5 per cent of its profits as a reserve fund before any dividend can be declared. In addition to this general reserve fund some of the mills have special reserve funds of various kinds for equalization of dividends, pensioning of employees, and other purposes.

According to the commercial law a limited-liability company is recognized as a legal body when the stockholders have paid in one-fourth of the capital subscribed; the consent of the Government as well as of the stockholders is required for the issuance of bonds; and every company is required to make up a statement of its accounts at least once a year. The cotton-manufacturing companies, however, all make their statements twice a year. The periods vary but they are usually for the six months ended May 31 and November 31, respectively.

DISTRIBUTION OF PROFITS.

In the foregoing table compiled by the Japan Cotton Spinners' Association several items were not given for years prior to 1905. Starting with 1905, however, I have made up from this table the following statement, in order to bring out more clearly certain features:

Half years.	Proportion to paid-up capital of—		Amount brought forward plus net profits.	Amounts distributed.	Division of amounts distributed.		
	Net profits.	Dividends.			Dividends.	Reserve funds.	Carried forward.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1905:							
First	16.51	8.56	6,216,904	6,216,904	47	40	13
Second	21.47	10.97	8,479,635	8,479,635	44	38	18
1906:							
First	19.95	11.01	8,598,098	8,598,098	45	35	20
Second	21.58	12.21	9,496,461	9,496,461	47	32	21
1907:							
First	16.98	9.84	10,687,751	10,721,085	47	29	24
Second	14.58	10.77	10,262,523	10,262,523	55	19	26
1908:							
First	5.90	5.74	5,930,627	6,256,777	53	10	37
Second	5.66	5.09	5,718,772	5,936,772	49	10	41
1909:							
First	7.80	5.81	6,653,328	6,653,328	51	14	35
Second	7.41	5.65	7,255,535	7,262,535	49	13	38
1910:							
First	4.63	5.41	4,363,114	4,789,108	72	16	12
Second	1.92	4.13	2,419,298	3,494,750	77	12	11
1911:							
First	6.32	5.10	3,979,946	4,114,947	76	16	8
Second	6.14	5.18	4,192,967	4,192,967	78	14	8
1912:							
First	9.22	6.15	8,032,634	8,282,434	46	16	38
Second	13.05	6.95	12,085,193	12,085,193	39	19	42
1913:							
First	12.72	7.18	14,677,919	14,677,919	37	18	45

During the prosperous period of 1905–1907 the mills, while declaring large dividends, were able to place large amounts to the reserve funds and also to carry forward large amounts as working capital. During the period of depression in 1908–1911 it took most of the profits to pay the dividends, leaving a small amount to be placed to reserves, and a continually decreasing amount was carried forward for use as working capital, which means that the mills had to borrow heavily. Most of this time the mills had to draw on their reserve funds to make out the amounts required. During the last year and a half (January 1, 1912, to June 30, 1913) the profits were so great that the larger dividends absorbed a much smaller proportion of the total. Larger amounts have been carried to reserves and much larger amounts carried forward for use as working capital. It is evident that the financial position of the mills has greatly improved since 1911.

The dividend percentage above given is only half that shown in the association statistics; but it is here given in actual percentage of the paid-up capital, while in the association's figures the semiannual dividend is stated in terms of the rate per annum. Thus, when a company in Japan publishes a statement showing a dividend of 30 per cent during one-half of the year and of 20 per cent during the next half, the actual dividend rate for the whole year is not 50 per cent, but 25 per cent. I mention this as there is sometimes confusion from the way such results are stated.

PRESENT STATUS OF INDUSTRY.

The Japanese industry as a whole is now on a much better financial footing than ever before, and it is also more conservatively managed. Before the Russian War a majority of the mills paid out most of their semiannual profits as dividends, and whenever the tide ebbed many were stranded for lack of working capital. Many of the shareholders then, and even to-day, owned many more shares than their financial status warranted. They borrowed money on stock with which to buy more, and then borrowed on this to increase their holdings still further. Any decrease in the market quotations for mill shares meant that they had to put up more collateral with the banks, hence they exerted strong pressure on the directors to pay as large dividends as possible, not only for the sake of the money received, but to keep up the value of the shares. During the prosperous times after the Russian War and during the present boom the mills have been able to withstand this demand for dividends to the extent of conserving a large proportion of the net profits for working capital and for reserves and thus to improve their financial status. The average rate of dividend during 1912 was 12.1 per cent, and it will probably average about $14\frac{1}{2}$ per cent for 1913. But for the growing conservatism and financial knowledge of the directors the outgo in dividends would have been much larger, as the net profits in 1912 averaged 22.27 per cent and probably averaged for 1913 considerably over 25 per cent.

OPERATIONS DURING FIRST HALF OF 1913.

The Japan Cotton Spinners' Association gives the financial status and results of the limited liability companies, including the Naniwa, for the first half of 1913 as follows:

Companies.	Capital.		Reserve fund.	Liabili- ties.	Permanent investment.	Deprecia- tion written off.
	Authorized.	Paid-up.				
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
Kanegafuchi.....	15,927,650	12,646,290	7,155,275	6,000,000	22,311,839	300,000
Miye.....	10,250,000	7,768,450	4,726,913	.....	10,695,530	500,000
Fuji Gas.....	16,000,000	11,999,250	2,618,912	3,000,000	14,579,918	117,580
Settsu.....	3,500,000	2,652,800	3,350,000	100,000	2,549,567	200,000
Osaka Godo.....	4,000,000	4,000,000	1,048,000	955,900	2,375,830	644,251
Osaka.....	5,000,000	4,687,500	1,900,000	2,025,000	6,254,228	310,000
Nippon.....	2,750,000	2,750,000	1,421,394	350,000	4,415,476	120,590
Tokyo.....	4,800,000	4,800,000	288,759	850,000	6,100,334	80,000
Amagasaki.....	5,000,000	2,840,000	2,132,242	900,000	1,220,855	2,062,561
Kishiwada.....	2,400,000	1,799,725	1,377,000	.....	1,314,107	170,000
Fukushima.....	1,356,250	1,356,000	950,000	1,000,000	1,921,353	120,000
Nisshin.....	10,000,000	3,500,000	175,000	.....	4,085,060	.....
Kurashiki.....	1,500,000	1,050,000	510,000	230,000	849,913	70,242
Wakayama.....	1,300,000	1,300,000	344,506	430,000	2,003,100	100,000
Sakai.....	1,200,000	900,000	403,118	.....	1,053,464	40,000
Naigai Wata.....	5,000,000	3,125,000	1,883,206	915,564	3,392,984	75,000
Tokyo Calico.....	2,000,000	2,000,000	107,000	500,000	2,495,066	10,000
Nippon Seifu.....	2,500,000	2,313,469	180,045	2,995,149	5,086,633	.....
Ehime.....	875,000	568,750	35,000	.....	539,633	10,000
Temma Orimono.....	1,000,000	950,000	194,000	222,830	1,329,485	20,000
Sanuki.....	450,000	390,000	156,400	.....	78,075	20,000
Matsuyama.....	750,000	375,000	169,600	40,735	299,224	2,000
Osaka Orimono.....	700,000	700,000	16,300	.....	692,051	4,500
Sanyo.....	1,000,000	400,000	3,500	.....	185,384	3,000
Ki-Yo Shokufu.....	500,000	500,000	56,689	.....	356,301	35,000
Naniwa.....	1,000,000	350,000	5,000	.....	151,360	.....
Total.....	100,758,900	75,722,234	31,207,859	20,515,178	96,336,770	5,014,724

Companies.	Amount brought forward.	Net profit.	Dividend declared.	Amount placed to reserves.	Amount carried forward.	Rate of dividend per annum.
	Yen.	Yen.	Yen.	Yen.	Yen.	Per cent.
Kanegafuchi.....	1,204,570	1,771,524	1,011,703	350,000	1,614,391	16.0
Miye.....	655,537	1,312,923	601,624	500,000	866,836	16.0
Fuji Gas.....	551,011	1,165,193	696,000	137,080	883,124	12.0
Settsu.....	599,718	740,613	366,150	150,000	824,181	13.0
Osaka Godo.....	224,914	509,011	178,000	330,000	225,925	16.0
Osaka.....	220,331	576,157	328,125	225,000	243,363	14.0
Nippon.....	71,455	330,281	220,000	60,000	121,736	16.0
Tokyo.....	30,322	307,817	240,000	65,000	33,139	10.0
Amagasaki.....	329,579	533,777	261,150	70,000	532,206	30.0
Kishiwada.....	135,663	360,030	237,000	100,000	158,693	30.0
Fukushima.....	176,911	353,805	176,312	160,000	194,404	26.0
Nisshin.....	55,986	193,146	140,000	34,000	75,132	8.0
Kurashiki.....	107,241	175,495	75,720	80,000	127,016	16.0
Wakayama.....	140,366	297,331	195,000	100,000	142,697	30.0
Sakai.....	148,059	172,376	90,000	30,000	200,435	20.0
Naigai Wata.....	106,743	355,278	302,000	50,000	110,021	20.0
Tokyo Calico.....	20,084	114,295	93,750	21,500	19,129	10.0
Nippon Seifu.....	95,571	a 47,923	.....	.....	47,648	.....
Ehime.....	61,078	53,806	28,875	10,000	76,009	10.0
Temma Orimono.....	22,982	101,186	52,000	45,000	27,168	b 10.0
Sanuki.....	37,396	28,414	32,738	1,700	31,372	18.0
Matsuyama.....	10,343	32,013	18,750	6,000	17,606	10.0
Osaka Orimono.....	14,687	103,768	42,000	60,400	16,055	12.0
Sanyo.....	10,419	23,978	13,000	2,000	19,397	8.0
Ki-Yo Shokufu.....	5,882	59,286	40,000	15,000	10,168	16.0
Naniwa.....	7,239	10,252	.....	2,000	15,491	.....
Total.....	5,044,087	9,633,832	5,439,897	2,604,680	6,633,342	14.4

a Loss. b The preferred stock of the Temma Orimono paid 12 per cent.

. GOOD RESULTS FOR ENTIRE YEAR.

The above table shows the great prosperity that the Japanese cotton-manufacturing industry is now enjoying. During the first half of 1913 only one company lost money, while all others declared dividends at the rate of 8 to 30 per cent per annum, and their net profits were considerably larger. This condition of affairs remained the same during the second half of 1913, when all companies seem to have declared the same rate of dividend as in the first half, except the Osaka Godo, which increased its rate from 16 per cent for the first half to 18 per cent for the second, an average of 17 per cent for the year. As these latter accounts are not all available in detail at this writing, I have to give the table for the first half of 1913 only. For the Kanegafuchi, however, the results for the second half of 1913 have been published in the papers as follows:

	Yen.
Net profit second half of 1913.....	1, 855, 199
Brought forward from last account (of June 30).....	1, 614, 391
	<hr/>
	3, 469, 590
To be distributed:	
Dividend at 12 per cent.....	897, 998
Special dividend at 4 per cent.....	299, 333
Reserves.....	150, 000
Pension reserve.....	100, 000
Fund for the amelioration of the condition of the operatives.....	100, 000
Bonuses to directors and auditors.....	80, 000
Carried forward to next account.....	1, 842, 259

The net profits made by the Kanegafuchi Spinning Co. (Ltd.) during 1913 were therefore over 26 per cent of the paid-up capital, and from these it declared 16 per cent in dividends and used 10 per cent for reserves and for working capital.

The larger companies, such as the Kanegafuchi, Miye, Fuji Gas, Settsu, and Osaka, all seem to be on a regular dividend basis of 12 per cent, and to call whatever they pay above this basis a special dividend. Most of them have dividend equalization funds to maintain the 12 per cent basis during times of depression. Of course, many of the smaller companies are not managed so conservatively.

DIVIDENDS.

The Japan Cotton Spinners' Association has kept a record of the rate of dividends paid by the cotton-manufacturing companies since the middle of 1903. During this time some companies have been absorbed by others. Of the companies now in existence, listed in order of size, the rate of dividends paid at each semiannual statement have been as follows.

Companies.	1903	1904		1905		1906		1907 *		1908	
	Second.	First.	Second.	First.	Second.	First.	Second.	First.	Second.	First.	Second.
	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>
Kanegafuchi.	7.0	6.0	8.0	16.0	16.0	16.0	20.0	22.0	22.0	16.0	14.0
Miye.	12.0	12.0	14.4	30.8	30.8	30.8	30.8	30.0	20.0	12.0	12.0
Fuji Gas.	(a)	(a)	(a)	(a)	(a)	(a)	25.0	25.0	25.0	18.0	14.0
Settsu.	16.0	14.0	20.0	36.0	40.0	40.0	50.0	50.0	44.0	20.0	20.0
Osaka Godo.	10.0	10.0	12.0	20.0	20.0	20.0	30.0	30.0	30.0	20.0	20.0
Osaka.	17.0	17.0	21.0	20.0	25.0	20.0	20.0	20.0	20.0	12.0	12.0
Nippon.	12.0	10.0	10.0	12.0	15.0	16.0	16.0	18.0	19.0	16.0	12.0
Tokyo.	5.0	.....	5.0	16.0	20.0	20.0	20.0	20.0	18.0	8.0	5.0
Amagasaki.	20.0	20.0	20.0	30.0	40.0	40.0	50.0	50.0	50.0	40.0	30.0
Kishiwada.	18.0	18.0	18.0	30.0	30.0	30.0	40.0	40.0	40.0	30.0	25.0
Fukushima.	7.0	7.0	7.0	12.0	18.0	20.0	28.0	30.0	30.0	16.0	12.0
Nisshin. ....	.....	.....	.....	.....	.....	.....	.....	3.0	.....	.....	.....
Kurashiki.	13.0	10.0	15.0	30.0	40.0	35.0	30.0	40.0	25.0	10.0	10.0
Wakayama.	8.0	4.0	7.0	20.0	28.0	20.0	16.0	16.0	12.0	.....	4.0
Sakai.	11.4	10.0	11.4	20.0	23.0	23.0	34.4	35.0	20.0	16.0	10.0
Naigai Wata.	5.0	.....	10.0	15.0	13.0	15.0	15.0	15.0	15.0	12.0	10.0
Tokyo Calico. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nippon Seifu.	30.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ehime. ....	.....	.....	.....	.....	.....	.....	.....	20.0	16.0	.....	.....
Temma Orimono. ....	.....	6.0	10.0	15.0	15.0	10.0	22.0	22.0	11.2	20.0	20.0
Sanuki. ....	.....	.....	.....	10.0	15.0	18.0	20.0	25.0	25.0	20.0	18.0
Matsuyama.	9.0	6.0	8.0	15.0	20.0	20.0	20.0	20.0	16.0	.....	.....
Osaka Orimono. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sanyo. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ki-Yo Shokufu. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average <i>b</i> . ..	8.2	6.6	8.5	17.1	21.9	22.1	24.4	19.7	21.5	11.5	10.2

Companies.	1909		1910		1911		1912		1913	
	First.	Second.	First.	Second.	First.	Second.	First.	Second.	First.	Second.
	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>
Kanegafuchi.	14.0	14.0	14.0	12.0	12.0	12.0	14.0	14.0	16.0	16.0
Miye.	15.0	15.0	12.0	12.0	12.0	12.0	14.0	16.0	16.0	16.0
Fuji Gas.	14.0	14.0	12.0	6.0	10.0	10.0	14.0	12.0	12.0	12.0
Settsu.	20.0	20.0	20.0	20.0	20.0	20.0	20.0	30.0	30.0	30.0
Osaka Godo.	20.0	20.0	20.0	20.0	20.0	20.0	16.0	16.0	16.0	18.0
Osaka.	12.0	12.0	12.0	10.0	10.0	16.0	10.0	12.0	14.0	14.0
Nippon.	12.0	10.0	10.0	8.0	8.0	8.0	12.0	14.0	16.0	16.0
Tokyo.	5.0	8.0	7.0	5.0	7.5	8.0	8.0	9.0	10.0	10.0
Amagasaki.	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Kishiwada.	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Fukushima.	12.0	12.0	14.0	10.0	16.0	16.0	20.0	24.0	26.0	26.0
Nisshin. ....	.....	.....	5.0	.....	.....	5.1	7.1	7.1	8.0	8.0
Kurashiki.	16.0	12.0	14.0	12.0	10.2	12.0	16.0	16.0	16.0	16.0
Wakayama.	10.0	8.0	10.0	8.0	16.0	16.0	20.0	24.0	30.0	30.0
Sakai.	16.0	14.0	14.0	14.0	14.0	14.0	16.0	18.0	20.0	20.0
Naigai Wata.	12.0	12.0	12.0	12.0	12.0	10.0	15.0	20.0	20.0	15.0
Tokyo Calico.	5.0	.....	.....	.....	.....	6.0	10.0	10.0	10.0	6.0
Nippon Seifu. ....	.....	6.0	.....	.....	.....	.....	.....	.....	.....	.....
Ehime. ....	.....	.....	.....	.....	.....	5.1	8.0	9.2	10.0	10.0
Temma Orimono.	20.0	20.0	17.0	.....	14.0	.....	.....	20.0	10.0	10.0
Sanuki.	18.0	18.0	18.0	12.0	15.0	16.0	16.0	18.0	18.0	18.0
Matsuyama. ....	.....	.....	6.8	.....	.....	.....	6.0	16.0	10.0	10.0
Osaka Orimono. ....	.....	.....	.....	.....	6.0	6.0	10.0	10.0	12.0	12.0
Sanyo. ....	.....	.....	.....	.....	.....	.....	.....	10.0	8.0	8.0
Ki-Yo Shokufu. ....	.....	.....	.....	.....	.....	.....	8.0	10.0	16.0	16.0
Average <i>b</i>	11.6	11.3	10.8	8.3	10.2	10.4	12.3	13.9	14.4	14.5

a The Fuji Gas Boseki was formed in the first part of 1906 by the amalgamation of the Fuji Boseki and the Tokyo Gas Boseki.

b The average includes some other companies that have failed or have been amalgamated since with other companies.

As before explained, the yearly dividend is the average and not the sum of the two semiannual dividend rates, as these are stated in terms of the rates per annum. It may also be mentioned that the Japanese, except in their publications for foreign use, do not state proportions in percentages but in tenths. Thus a 10 per cent divi-

dend is stated by them as a 1.0 dividend, a 20 per cent dividend as a 2.0 dividend, etc. This is mentioned for the benefit of any who may wish to verify the foregoing figures by referring to the publications of the association.

DIVIDENDS OF LEADING COMPANIES.

The Amagasaki and the Kishiwada are the two companies that hold the record for dividends paid in the last 10 years. The first half of 1903 is not shown but starting with 1904 the yearly dividends of the Amagasaki have been 20, 35, 45, 50 (1907), 35, 30, 30, 30, 30, and 30 per cent, or a total of 335 per cent during the 10 years. The net profits have been over 500 per cent. This company has one mill of 45,596 ring-spinning spindles and 21,608 twister spindles at Amagasaki, near the station of Kanzaki, which is a short distance from Osaka on the railroad from Kobe to Osaka, and another mill of 55,396 ring-spinning spindles, 9,792 twister spindles, and 1,783 looms at Ysumori near by. This company uses about 60 per cent of American cotton, 25 per cent of Indian, and 15 per cent of other kinds, including a small amount of Egyptian. It spins various counts from 8s up to 60s. Its yarn exports are small; it sells the bulk of its coarse counts at home and weaves most of its medium counts in its own factory. It makes only shirting, mainly 44/45-inch in 46-yard lengths, 30½-inch in 120-yard lengths for printing, and a smaller amount of the somewhat coarser 37-inch in 38-yard lengths. With the more favorable trade prospects in the last two years and the higher protection under the tariff of 1911, it has been expanding and intends to weave a larger proportion of the yarn it spins. For instance on June 30, 1912, it had 77,408 spindles and 781 looms, on December 31, 1912, it had 89,776 spindles and 1,231 looms, while on June 30, 1913, it had 100,992 spindles and 1,783 looms. The average of the yarns made by this company is a little over 30s, and its large profits are probably due to the fact that it makes only shirtings of a grade somewhat better than the average. Its "Nasu," or "Eggplant," brand of the 44/45-inch shirting, made 68 by 72, 5.11 yards to the pound, brings the highest price of its kind in Japan, and its "Kai Jo," or "Woman Diver," brand is equally well known. Its "Eggplant" brand of the narrower width, about 30¾-inch, 60 by 58, 7.27 yards to the pound, is one of the standards of the print-cloth trade.

The Kishiwada in the 10 years from 1904 to 1913, inclusive, paid yearly dividends totaling 289½ per cent and its net profits were much larger. This is a spinning company only, having two mills at Kishiwada and another at Sakai near by, all three not very far from Osaka. It exports almost its entire production and uses about 78 per cent of Indian cotton, about 13 per cent of American, and about 9 per cent of Chinese to make one count only, No. 20 warp, spun with a left-hand twist. Its trade-mark is a representation of Ebisu (or Yebisu), the Japanese god of prosperity, and its No. 20 warp brings the highest price on the Chinese market. Its great profits are probably due in large measure to the economy afforded by making one count only and to the reputation that it has established for this yarn.

The averages in the above table afford a fairer idea of the general dividends paid than do the great dividends paid by a few of the larger companies. This average includes all of the limited-liability companies (the private companies not included are mostly small). The companies that were included but not shown now, because they are not in operation under their old name, have either failed or been absorbed by the larger mills. The largest of the companies that have disappeared, the Kennshi, on December 31, 1910, had 69,116 spindles and 1,546 looms. This company paid 10 per cent in 1905, 20 per cent in 1906, 16 per cent in 1907, nothing in 1908, $6\frac{1}{2}$ per cent in 1909, and 2 per cent in 1910, but as its finances were insufficient to operate profitably, it was then absorbed by the strong Kanegafuchi. Many other companies have at different times sprung up and in a time of great prosperity, like the period from 1905 to 1907, have paid well, and then in the period of reaction have gone under for lack of working capital or other causes. Only the stronger companies have survived and these have been augmented by taking over the weaker companies. With their better management and better financial backing they are able to show continued profits on a high level.

STOCK QUOTATIONS.

On request, the Osaka Kabushiki Torishikisho (Osaka Stock Exchange) compiled the following to show the market quotations on the shares of the largest cotton mills at the beginning of each half year for the past 15 years.

Companies.	Par value.	1899		1900		1901		1902	
		Jan. 4.	July 1.	Jan. 4.	July 2.	Jan. 4.	July 1.	Jan. 4.	July 1.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
Kanegafuchi...	50	41.00	47.00	54.00	37.50	38.00	31.90	38.50	36.50
Miye.....	50	.....	.....	80.00	69.00	72.00	57.00	50.00	72.00
Fuji Gas ^a	50	.....	.....	.....	.....	.....	.....	.....	.....
Settsu.....	25	43.50	54.00	68.50	50.00	48.50	40.50	48.50	44.00
Osaka Godo....	20	.....	.....	.....	.....	19.00	15.00	14.00	16.50
Osaka.....	50	25.00	33.00	41.00	30.00	24.50	16.50	20.30	20.30
Nippon ^b	12½	8.70	14.00	18.50	14.10	25.00	19.80	33.60	33.00
Tokyo.....	50	45.00	48.00	62.00	43.00	44.00	38.00	37.00	36.50
Amagasaki....	25	19.00	31.50	39.00	41.00	49.00	43.00	48.50	50.00
Kishiwada....	25	30.00	34.50	41.00	33.00	35.00	30.50	33.50	33.00
Fukushima....	25	9.50	15.10	18.00	13.00	10.00	8.00	11.00	15.10

Companies.	Par value.	1903		1904		1905		1906	
		Jan. 5.	July 1.	Jan. 4.	July 1.	Jan. 4.	July 1.	Jan. 4.	July 2.
	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.	Yen.
Kanegafuchi...	50	39.50	42.00	37.00	38.50	41.50	98.00	106.00	116.50
Miye.....	50	72.00	71.50	71.00	66.50	76.00	98.00	110.00	120.00
Fuji Gas.....	50	.....	.....	.....	33.00	39.50	79.50	115.00	101.00
Settsu.....	25	40.00	45.30	45.70	36.50	47.00	75.00	97.00	97.00
Osaka Godo....	20	12.80	13.15	17.20	17.00	20.50	37.80	41.50	45.50
Osaka.....	50	12.50	13.70	15.80	22.00	40.60	84.50	91.50	84.50
Nippon.....	25	33.50	33.00	30.00	26.70	27.50	37.50	42.00	41.50
Tokyo.....	50	33.50	32.50	34.00	28.50	28.80	62.00	94.00	96.00
Amagasaki....	25	49.50	55.50	56.00	50.50	55.50	82.00	110.00	107.50
Kishiwada....	25	30.50	36.50	39.00	39.00	44.20	69.00	75.00	80.00
Fukushima....	25	12.70	14.00	16.30	15.80	17.00	31.00	43.50	44.50

^a Quotations for 1904, 1905, and Jan. 4, 1906, are for the Fuji Boseki, which was amalgamated with the Tokyo Gas Boseki; quotations thereafter are for the new company formed, the Fuji Gas Boseki.

^b Quotation for July 2, 1900, is on a par value of 17.50 yen; for Jan. 4, 1901, on a par value of 20 yen; and for July 1, 1901, and thereafter, on a par value of 25 yen.

Companies.	Par value.	1907		1908		1909		1910	
		Jan. 4.	July 1.	Jan. 4.	July 1.	Jan. 4.	July 1.	Jan. 4.	July 1.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Kanegafuchi...	50	240.00	117.00	88.00	81.00	85.50	101.00	104.00	105.50
Miye.....	50	215.00	118.00	90.00	70.50	76.00	92.50	96.50	90.00
Fuji Gas.....	50	198.00	103.00	81.00	80.00	80.00	107.00	99.50	93.00
Settsu.....	25	163.00	110.00	73.50	61.00	61.50	77.00	75.00	82.00
Osaka Godo...	20	84.00	62.00	41.30	33.00	38.00	46.00	45.20	46.00
Osaka.....	50	138.00	89.50	62.00	51.00	62.00	82.00	73.00	71.50
Nippon.....	25	72.50	46.00	34.00	30.70	33.50	34.00	31.00	31.20
Tokyo.....	50	210.00	77.00	60.00	39.00	35.00	49.50	45.50	44.00
Amagasaki....	25	172.00	121.00	105.50	83.50	94.50	98.50	101.00	102.50
Kishiwada....	25	135.00	87.00	79.00	63.00	68.00	77.00	92.00	88.00
Fukushima....	25	78.50	46.50	31.00	25.50	28.00	32.00	34.00	45.00

Companies.	Par value.	1911		1912		1913		1914	
		Jan. 4.	July 1.	Jan. 4.	July 1.	Jan. 4.	July 1.	Jan. 6.	July 1.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Kanegafuchi...	50	108.50	100.50	103.00	113.00	110.50	105.00	105.00	.....
Miye.....	50	93.50	88.00	93.00	96.50	92.50	96.50	93.50	.....
Fuji Gas.....	50	91.50	81.50	84.00	87.50	82.50	75.00	76.00	.....
Settsu.....	25	86.00	80.50	92.50	109.00	90.70	85.50	86.50	.....
Osaka Godo...	20	49.00	49.10	50.20	52.30	50.00	37.20	38.50	.....
Osaka.....	50	72.00	66.30	67.20	72.50	68.50	69.20	68.00	.....
Nippon.....	25	32.70	30.00	31.50	41.50	40.50	41.00	40.70	.....
Tokyo.....	50	46.00	47.50	46.00	52.50	50.50	51.50	52.00	.....
Amagasaki....	25	125.00	112.50	131.00	132.00	127.50	95.00	99.00	.....
Kishiwada....	25	100.00	114.00	109.50	166.00	98.00	92.00	84.50	.....
Fukushima....	25	40.00	42.00	53.50	80.50	74.00	79.00	76.50	.....

The 11 companies listed are the largest in Japan and range from 406,856 spindles for the Kanegafuchi down to 82,976 spindles for the Fukushima, as shown for June 30, 1913.

FLUCTUATIONS IN VALUE.

In the first part of 1899 most of the shares were below par; they improved in value during the latter part of that year and the first part of 1900, then slumped, but in 1905 increased in value until in the first part of 1907 they reached their record. On January 1, 1907, for instance, the Kanegafuchi shares, with a par value of 50 yen, were selling at 240 yen, and Miye shares of the same par value sold at 215 yen. During the height of the boom cotton-mill shares in general ranged from two and one-half to more than five times their par value. Then came the reaction, but with the larger profits made in the last two years shares are now again on a high level. Even at the present values, however, considering the dividends paid by the larger companies, cotton-mill shares are a good investment and bring in a large return.

MANCHURIAN MARKET.

INTRODUCTION.

Manchuria is the name given by foreigners to the northeast section of China, comprising the three Provinces of Shengking, Kirin, and Heilungkiang. This section is officially designated as Tung-san-cheng, or Three Eastern Provinces, though also known among the Chinese as "the country of the Manchus."

The sharp wedge of the eastern end of Mongolia bends Manchuria into a bow-shaped section, of which one half slopes northeast and the other half northwest, and this causes the towns near the middle, such as Changchun and Harbin, to lie almost on the edge of Mongolia. Manchuria is bounded on the west by Chihli Province, Mongolia, and Siberia; on the north by Siberia; on the east by Siberia and Chosen; on the south by Chosen, the Yellow Sea, and the Gulf of Liaotung.

Neither the area nor the population of Manchuria has ever been accurately determined. The China Year Book for 1913 states the area as 363,700 square miles and the population as being approximated by the Ministry of the Interior in 1910 as 14,917,000. The Encyclopædia Britannica estimates the population of Shengking at 4,000,000, of Kirin at 6,500,000, and of Heilungkiang at 2,000,000, a total for Manchuria of only 12,500,000; on the other hand the Chinese Customs estimate the total as high as 19,200,000.

THREE PROVINCES OF MANCHURIA.

The most southerly Province of Manchuria is Shengking (Fengtien), and about three-fourths of the foreign trade of Manchuria passes through its ports, as compared with only about a fourth that passes across the borders of Siberia. The chief port is Dairen, in the Japanese leased territory, and this is followed by Newchwang and Antung; the trade via Antung has increased considerably in the last two years. The capital of the Province is Mukden. Other towns of lesser importance are Tiehling, Kaiyuan, and Liaoyang. In the east the country is mountainous, but most of the Province is a level, tree-denuded country; much of the great plain is swampy, while along the coast the saline exudations make a sterile strip that is unfit for agriculture.

Kirin Province, in central Manchuria, is the richest and most populous of the three Provinces. In the east it contains heavily wooded mountains, and besides many valuable hardwoods this section is claimed to contain much undeveloped mineral wealth. In the mountains are many wild animals, and large numbers of furs are obtained annually. In the western and central section of this Province are fine agricultural lands, and here is produced the principal money crop of Manchuria, the soya bean, as well as millet, kaoliang, tobacco,

and other staples. The capital of Kirin Province is the city of Kirin, which, owing to the large number of merchants and officials who go there on retirement, is claimed to be the wealthiest city of Manchuria. Changchun (Kwanchengtze) is the great distributing center for the interior of Manchuria; Harbin also lies within the borders of this Province and the Russian concession and the Chinese city together make it a very important commercial center; it is also the center of a large flour-manufacturing industry. Towns of lesser importance are Asheho, Petuna, Sansing, Ninguta, and Suifenho.

Heilungkiang is the largest of the Manchurian Provinces and contains about half the total area of the country. It is very sparsely populated and has few cities, the only ones of importance being Tsitsikar, the capital, Mergen, Khailar, and Manchouli. In the west and northeast this Province is mountainous but most of it consists of plains, on which are grown some wheat and other crops; but much of the land is impregnated with salt and soda and the cultivated lands lie almost entirely along the rivers.

PRINCIPAL RESOURCES.

The principal money crop of Manchuria is the soya bean, in which a large export trade has been developed. Indigo and opium were formerly much more important than at present; but the former has suffered from the increased competition of synthetic indigo, and the latter from the attempt of the authorities to prohibit its use. Millet and kaoliang are extensively cultivated, also wheat, barley, and pulse; to a smaller extent tobacco is cultivated in the central north and cotton in the south, around Mukden. In the southeast there is also an extensive production of silk and wild silk. The most important mineral mined is coal, the largest mines being those at Fushun, owned by the railway, but it is thought that the country is rich in gold, iron, and other minerals that will in time be extensively mined; precious stones are also obtained in fair amounts. The valuable hardwoods in the mountains of Kirin will be made available with the extension of the railways, though development of the country may cut down the export of furs, which are now obtained in large numbers. The rivers of Manchuria, especially in the north, are well stocked with salmon and other fish, and these form an important article of diet. The country contains considerable numbers of cattle, horses, and swine, as well as smaller numbers of goats and sheep.

Manchuria becomes very warm for a short time in the summer, but during the four cold months the rivers are all frozen and all ports are icebound except that of Dairen, at the extreme southern end of the Liaotung Peninsula.

RIVERS—EARLY TRANSPORTATION METHODS.

The largest river of Manchuria is the Sungari, which flows into the Amur, the latter forming the boundary line between Manchuria and Siberia for a long distance. The Sungari lies in northeast Manchuria, while the Usuri lies in the northwest; in southern Manchuria the Yalu River lies in the east and the Liao in the west. These rivers are navigable by river steamers and junks for long distances. River

traffic is still of importance, though on the Liao traffic has been much reduced by the competition of railways.

Until the inauguration and extension of railway transportation throughout Manchuria internal commerce depended on the heavy two-wheeled Chinese carts drawn by seven ponies, one of which was hitched between the shafts and the others in two lines of three abreast in front. The Chinese covered cart, called the Peking cart, was used by merchants traveling, and this vehicle was drawn by one pony or by two to three arranged tandem. This cart was also used in the transportation of the silver ingots, or "Sycee shoes," that it was necessary to send from town to town to cover the balance of trade. The long-distance seven-pony carts traveled from one end of the country to the other, and at night were kept in the compounds of inns, where they were protected by walls from the bands of robbers that infested the country. Transportation was almost entirely in winter, when the frozen roads became packed by heavy, continuous travel; in the spring and summer, after the thaw, most of these roads were almost impassable, travel and trade almost ceased, and the ponies were used in cultivating the crops. Even after the Russo-Japanese War the bulk of the commerce of the country was still carried by cart, either the entire distance from the coast to the interior, or else by utilizing the river or railway for only part of the trip. Since the Japanese have come into control of the railways of southern Manchuria, however, they have extended their lines, improved the equipment and speed of their trains, and established numerous stations only short distances apart, so that the old cart traffic as well as the junk traffic up the Liao Ho is largely a thing of the past, and carts are now used only for hauling short distances from the nearest station and to points not yet reached by rail. The ports and important centers of Manchuria are now connected by rail, and others are planned that will cover the country with a network of lines.

DEVELOPMENT OF RAILWAYS.

Railways in Manchuria were inaugurated by the Russians. The Russo-Chinese Bank, an institution founded in 1895 to develop Russian interests in the Far East, secured a concession in 1896 from the Chinese Government for a railway across northern Manchuria that would form a connecting link in the line from Europe to Vladivostok. This line enters Manchuria on the northwest border at Manchouli (sometimes called Manchuria) and leaves Manchuria at Suifenhö on its way to Vladivostok. The town of Harbin is near the center of this section of railway and when, in 1898, Russia obtained a lease of the Liaotung Peninsula it began to construct, under agreement with China, a branch from Harbin to Dalny (now Dairen) and Port Arthur. Through communication was established in 1901. As a result of the Russo-Japanese War Japan secured control of the line from Changchun (Kwanchengtze) south, while Russia retained the branch from Kwanchengtze to Harbin, as well as the section of the Trans-Siberian route that lies across northern Manchuria. The Russian railway section is operated as the Chinese Eastern Railway, while the Japanese railway section is known as the South Manchuria Railway. In addition to the branch to Newchwang and to the Fushun coal mines, the

Japanese have since completed a line from Mukden that connects at Antung with the Chosen Government Railways and thus gives an overland route from Japan to Manchuria. In addition to the Russian and Japanese lines there is the North China Railway from Peking, which enters Manchuria at Shanhaikwan and connects with the Japanese line at Mukden. This line is under Chinese control and a branch runs from Koupangtze to the west bank of the Liao Ho opposite Newchwang, with which it is connected by ferry. In addition there is now a Chinese-controlled line from Changchun to Kirin, 80 miles. The Russian lines in Manchuria are of 5-foot gauge while the Japanese and Chinese lines are the standard 4 feet 8½ inches. Under their agreements with China both Russia and Japan have control of their respective rights of way, with powers of policing same. Each has established a concession under its jurisdiction at every station and these are held by soldiers acting as railway guards.

PRESENT MILEAGE—EXTENSIONS PLANNED.

The railway mileage in operation in Manchuria on January 1, 1914, was as follows:

Chinese Eastern Railway (Russian):	Miles.
Manchouli-Harbin-Suifenhö (5-foot gauge).....	926
Harbin-Kwanchengtze (5-foot gauge).....	152
Branch line from Angangki to Tsitsikar (3.28-foot gauge).....	17
Total.....	1,095
South Manchuria Railway (Japanese):	
Changchun (Kwanchengtze)-Dairen.....	437.5
Mukden-Antung.....	170.1
Tashihchiaö-Yingkow (Newchwang).....	13.9
Sushiatun-Fushun-Laohutai.....	34.7
Choushuitzu-Port Arthur (Ryojun).....	31.6
Total (4-foot 8½-inch gauge).....	687.8
North China Railway:	
Shanhaikwan-Mukden.....	40
Koupangtze-Yingkow (Newchwang).....	59
Changchun-Kirin.....	80
Total (4-foot 8½-inch gauge).....	179

This gives a total railway mileage in Manchuria of some 1,902 miles and shows that Manchuria, in proportion to area and population, is better served by railways than any other section of China. In addition, many other lines are in contemplation. The Manchuria Daily News of Dairen, under date of February 2, 1914, states in regard to the proposed network of railways in South Manchuria:

That the Ssuping kai-Taonanfu line will be the first to be constructed seems certain. The next to be started will be either the Kaiyuan-Hailungcheng or else the Kirin-Kwainei line. This last line will be about 310 miles long. The southern terminus, Kwainei, is about 40 miles from Seishin (Chosen).

Another line is to be run from either Changchun or else Kungchuling to Taonanfu. The Chinese prefer the line from Taonanfu to Chihfeng to be straight, but it would be more businesslike to deviate via Hsiao-Kulun from Chengchiatun.

Apart from the five railway lines above mentioned another line between Kirin and Fenghuangcheng (on the Mukden-Antung line) via Hailungcheng, another branching off from Hailungcheng to Seishin (Chosen) via Liukiang and the Changpai Range, and

still another connecting Fushun with Hsingking, to meet there the Kirin-Fenghuag-cheng line, will be necessary to complete the railway network in South Manchuria.

All of these lines, if constructed, will have a total length of 3,500 miles. Of these the lines which promise paying returns are only the Ssupingkai-Chenchiatun section and the Kaiyuan-Hailungcheng line.

ROUTES TO MANCHURIA.

Before the introduction of the railway Manchuria could be reached only by sea on cargo boats, and internal transportation was so primitive, not to mention the comfortless native inns, that there was considerable excuse for the fact that the import trade was entirely in the hands of Chinese and that Shanghai importers as well as exporters in America and Europe were alike ignorant of the actual conditions of trade. To-day this is all changed. One can now enter by sea on comfortable passenger boats from either Shanghai or Kobe, or by rail in trains de luxe from either Chosen, China, or Siberia, and in the country one finds comfortable railway and hotel accommodations. There is little hardship entailed in reaching and traveling through Manchuria, at least so far as the main cities are concerned, and Americans interested in the cotton-goods trade would find it to their interest to make a trip there and obtain first-hand knowledge of the market requirements. Manchuria is on the through rail route from Europe to the Far East that connects London with either Shanghai or Tokyo in $13\frac{1}{2}$ days and gives the shortest, quickest, and cheapest journey between these points. An increasing number of people use this route every year, and a few stop over to see the cities, including an increasing number of traveling men who cater to the requirements of the gradually increasing number of foreign firms now locating branches in the interior as well as at the ports.

The quickest routes for reaching Manchuria are as follows:

(1) From Shanghai to Dairen the South Manchuria Railway Company operates two ships a week (the *Kobe Maru* and the *Saikio Maru*) that make the trip in less than two days, usually $1\frac{3}{4}$ days. These are fast passenger and mail boats and charge 40 yen first class and 25 yen second class.

(2) From Kobe the Osaka Shosen Kaisha operates a fast passenger and mail service twice a week, making the trip to Dairen via Moji in 3 days; the fare is 42 yen first class and 24 yen second class.

(3) For the overland route from Japan a train with dining car, sleeping cars, and observation parlor car leaves Tokyo daily and makes the run of 700 miles to Shimonoseki in 25 hours (12 hours from Kobe to Shimonoseki), where it connects with comfortable steamers that make the trip from Shimonoseki to Fusan across the 150 miles of the Tsushima Straits in 11 hours; at Fusan it connects with the Chosen-Manchuria Express Service, equipped with dining cars and American Pullmans that makes the run from Fusan via Seoul and Antung to Mukden in $25\frac{1}{2}$ hours without change. The Chosen-Manchuria Express Service operates thrice weekly but there are ordinary trains daily.

(4) From Peking via Tientsin to Mukden the Chinese Government Railway operates a train de luxe with sleeping cars, dining car, and observation car once a week, making the trip in 23 hours; it also has another through service without sleepers once a week, besides a daily

mail train that stops over for the night at Shanhaikwan. From Koupangtze on this Peking-Mukden Line a branch road runs 59 miles to the west bank of the Liao River, where one can be ferried over to Newchwang during the open season.

(5) From Moscow to Harbin the International Wagon-Lits express trains equipped with compartment sleeping cars and dining cars run once a week and make the trip in $7\frac{1}{2}$ days; in addition there are more frequent Russian State trains from Moscow and St. Petersburg to Harbin. The only change on this trip is at Irkutsk, to which double tracking has been finished from Moscow, and this year the International Wagon-Lits trains are to inaugurate through trains without change and will shortly still further reduce the traveling time.

TRAVEL IN MANCHURIA.

The main line of the South Manchuria Railway runs from Dairen to Changchun and connects with the Chinese Eastern Railway (Russian) to Harbin and Europe. A thrice-weekly express-train service, composed of Pullman and dining cars, connects with the fast passenger boat service on its arrival from Shanghai at Dairen and makes the run to Changchun, $437\frac{1}{2}$ miles, in $15\frac{1}{2}$ hours. Regular mail trains run twice a day and make the run in 21 hours. From Yingkow (Newchwang) one goes in 35 minutes the 13.9 miles to Tashihchiao Junction and there makes connection with the main line. From Changchun the Changchun-Kirin train (Chinese) takes one the 80 miles to Kirin in $4\frac{1}{2}$ hours, or the Chinese Eastern Railway (Russian) takes one the 152 miles from Changchun to Harbin in 6 hours. For the through service to Europe the Russian and Japanese trains draw up on opposite sides of the station at Changchun, and passengers change from one to the other without loss of time.

On the Russian lines payments have to be made in rubles, on the Japanese lines in gold yen, and on the Chinese lines in Mexican dollars.

The South Manchuria Railway Co. has established hotels—all styled Yamato—at Dairen, Port Arthur, Mukden, and Changchun; also at Hoshigaura (Star Beach, a seaside resort 5 miles from Dairen by electric tram). The Yamato hotels are well operated on modern lines and do a good tourist trade. At Dairen the comfortable Yamato hotel is shortly to be replaced by another that will be larger and be one of the most modern hotels in the Far East, having elevators, numerous private baths, etc.

At Harbin there are two or three Russian hotels, which, however, are not so good as the Yamato hotels of the South Manchuria Railway. At Newchwang the Astor House hotel is operated by Chinese and is more like a boarding house, while at Kirin there are only two small boarding houses under foreign management.

With American Pullman cars and modern hotels travel on the main line is about as comfortable as in America, and it is only in the smaller towns and those off the main routes that one now encounters discomforts.

SOUTH MANCHURIA RAILWAY CO.

The South Manchuria Railway Co., known in Japan as the Minami Manshu Tetsudo Kabushiki Kaisha, has its head office in Dairen. Its Japanese office is located in Tokyo.

The South Manchuria Railway Co. is one of the largest companies ever organized in Japan, having an authorized capital of 200,000,000 yen, or \$99,600,000 United States currency. Of the authorized capital the Japanese Government owns half, or 100,000,000 yen, which is its share for handing over to the company the completed railway lines in Manchuria and the properties attached thereto, including the coal mines at Fushun and Yentai. The authorized capital consists of 2,000,000 shares of 100 yen each. The capital paid up on January 1, 1914, was a total of 120,000,000 yen in 1,500,000 shares of 80 yen each.

The South Manchuria Railway Co. was organized in 1906 to operate the railway which was transferred to Japan by Russia by virtue of the Portsmouth convention of 1905 and which included the main line between Dalny (now called Dairen) and Changchun (Kwanchengtze), with its branches. The railway was originally built by the Russians, under the title of the Chinese Eastern Railway Co., during the years 1900 and 1901, to form an arm of the Trans-Siberian route.

In June, 1906, the establishment of the South Manchuria Railway Co. was made public by the promulgation of Imperial Ordinance No. 142. In the spring of 1907 Baron Shimpei Goto, as president, took delivery of the line from the Imperial Government Railway. In June, 1907, the first issue was made of the company's debentures to the amount of 40,000,000 yen, the issue being floated in London; this was followed by a second, for 20,000,000 yen, in June, 1908, and by a third, also in 1908; all of these are guaranteed by the Imperial Japanese Government. Since December, 1908, the company has been under the direct control of the Prime Minister, who appoints the president. Of the paid-up capital, 100,000,000 yen is owned by the Imperial Japanese Government and 20,000,000 yen by banks and private parties. The dividend is 6 per cent annually, and the Japanese Government has guaranteed this rate of dividend to the ordinary shareholders for a period of 15 years from the registration of the company. The shareholders of the company are limited by law to the Governments of Japan and China and to the subjects of these two countries.

RAILWAY'S PART IN DEVELOPMENT OF COUNTRY.

The South Manchuria Railway Co. has been a most important factor in the opening up and development of Manchuria, and especially has been of great benefit to Japanese trade. Since the company was organized it has changed the gauge of the road from 3 feet 6 inches (at which it was left at the end of the Russian War after having been changed by the Japanese forces from the Russian 5-foot gauge so as to use rolling stock brought over from Japan) to the standard 4 feet 8½ inches. The entire new equipment required was supplied in large measure from the United States, and most of the engines are of American manufacture. Pullman cars of the latest American design were introduced for the express trains, and both passenger and freight cars were also imported from America, though most of the freight cars are now made by the Japanese from the original designs. The small freight cars used by Russia and Japan have been displaced by freight cars of the size used in America, the bulk of them being about 30 tons and many, especially those used

for coal, about 50 tons. In both Chosen and Manchuria the railroad equipment has been made to conform to American rather than European practice, and in many respects is more up to date than that used in Japan. In addition to widening the gauge, replacing the equipment, and double-tracking, the company has built a branch line of 170.1 miles to complete connections between Mukden and the Shingishu terminus of the Chosen Government Railways, including a 3,097-foot bridge across the Yalu River from Shingishu to Antung.

In addition to railroading the South Manchuria Railway Co. has gradually embarked in other enterprises, its sphere of activities now embracing (1) railways; (2) shipping; (3) harbor works; (4) coal mining; (5) electric power and traction; (6) gas power and light; (7) hotels; (8) administration of railway zone; (9) experimental laboratories, hospitals, schools, and libraries; (10) waterworks; (11) experimental and instruction farms. The land actually belonging to the railway company suitable for agricultural, industrial, and building purposes amounts to 60,774,000 tsubo, or 49,650 acres.

The coal mines at Fushun form the most valuable of the subsidiary properties owned by the railway. They supply coal for the railway, and considerable amounts are also exported. In addition to the mines at Fushun and at Yentai the railway has acquired coal mines at Sahibo, near Goboten, and at Shih-hi-ling and Tokatun, near Kwanchengtze.

The railway owns the *Kobe Maru* and the *Saikio Maru* and maintains a biweekly fast passenger and mail service between Shanghai and Dairen, making the trip each way in $1\frac{3}{4}$ days and connecting with the express-train service to Changchun and thence via the Trans-Siberian Railway to Europe. The railway controls wharf and warehouse services at Dairen. In addition it has control of Japanese concessions at each of the stations along its route, and these are policed by armed railway guards. The railway owns five modern hotels and is considering the building of others.

FREIGHT TARIFF.

The freight tariff of July 1, 1908, was arranged to give a protective rate to imports through Dairen as against imports through Newchwang, with the object of building up Japanese trade and the port through which it passed. It was justified by the Japanese on the ground of their large investments at Dairen and the fact that this port was 137 miles further by rail from Mukden and other points in the interior than Newchwang, the logical port of the country, and therefore needed some assistance to counterbalance this natural disadvantage.

In the freight tariff of 1908 rebates were publicly given to those who shipped in large quantities. This rebate was 3 per cent if the freight paid during the year was over 100,000 and under 150,000 yen; $3\frac{1}{2}$ per cent if it was over 150,000 and under 200,000 yen; and so on up until those paying over 500,000 yen during a year were given a 7 per cent rebate, these rebates being paid six months after the close of the fiscal year ending September 30, that is, on March 31. This proviso was inserted, however: "The company reserves the right to cancel

its recognition given to a client whenever it considers him to have acted in any manner prejudicial to the interests of the company."

The freight tariff was revised December 3, 1909, and republished with some changes in March, 1912. The revised tariff did away with the giving of rebates, at least so far as publicly stating them, but the freight rate to any interior point is the same from either Newchwang, Dairen, or Antung, though Newchwang is much the nearest.

The following are the principal regulations for the calculation of freight and other charges:

1. For purposes of calculation of freight and other charges 160 momme shall be computed as 1 kin; 1,512 kin (2,000 pounds English) shall be computed as 1 ton.
2. Fractions of 1 mile, 1 kin, or 1 ton shall be computed as 1 mile, 1 kin, or 1 ton, respectively. Fractions of 1 sen are to be omitted.
3. Freight and other charges shall be payable in Japanese gold yen, and shall be calculated separately for each class of goods.
4. For goods of which 1 cubic shaku weighs less than 10 kin, each cubic shaku shall be computed as 10 kin in the calculation of all charges and fees, including extra charges, etc.
5. Freight for 20 miles shall be the minimum freight; 5 sen shall be the minimum freight or charge.
6. On goods weighing less than 100 kin accepted at the kin rate, the freight charges shall be calculated as for 100 kin. For over 100 kin, freight and charges shall be collected for every 10 kin, and fractions of 10 kin shall be charged for as 10 kin.
7. The carload rates and charges shall apply only to specified goods. Should the actual weight be short of the specified carload weight, the freight and charges for the full weight shall be charged.
8. Loading and unloading of goods shall be undertaken by the company except in case of the following: (1) Goods specified in this tariff; (2) in cases in which the company considers it necessary that the consignor and (or) consignee shall undertake the loading and (or) unloading of the goods; (3) such carload goods as are loaded and (or) unloaded on any private siding specified by the company.
9. For such goods as are carried by goods train the loading and unloading charges shall be collected according to the rates specified in the below-mentioned loading and unloading terminal charges.
10. Goods which can be described in one consignment application must be less than 5 kinds and be of such kind and quantity as can be loaded together in one car. When more than one car is necessary, owing to the nature of the goods, the total carrying capacity of the cars should be the maximum consignment entered on the foregoing application.
11. The person or persons in charge of goods must each have procured and possess a railway ticket according to the following designations: (1) Passenger car (including conductor's car), a ticket according to the class of car occupied; (2) other than the above-mentioned in (1) a third-class ticket.
12. When loading and (or) unloading of the goods is undertaken by the consignor and (or) consignee, it must be finished within 6 hours after receipt of information from the company of the readiness of the cars for loading or unloading; but the period from the close of the working hours of one day to the beginning of the working hours of the next day is not reckoned in the limit of 6 hours above mentioned.
13. Should the freight charge for a certain distance under one schedule be higher than the charge for the same freight for a longer distance on the same line under another schedule, the lower charge shall prevail.

Freight rate on ordinary goods by goods train.—Kin rates (per 100 kin per mile): First class, 4 rin; second class, 3.5 rin; third class, 2.4 rin; fourth class, 1.6 rin. Carload rates (per ton per mile): Second class, 4 sen; third class, 3 sen; fourth class, 2 sen. Extra charges are made when goods weigh over 3 tons per piece, varying according to the weight per piece. Special rates are charged on special goods, such as dangerous goods, goods accepted by the piece (carriages, corpses, etc.), and on live animals.

CHARGES IN ADDITION TO FREIGHT RATES.

Loading and unloading terminal charges.—A. When the loading and unloading are undertaken by the company: (a) On ordinary goods the charge for loading and unloading is 3 sen per 100 kin for kin-rate goods (less than carload), or 30 sen per ton for carload rate goods; extra charges, varying according to the excess weight, are made for goods weighing over 1 ton apiece. (b) Special rates are charged for special goods, such as those classed as dangerous, for goods accepted by the piece, and for live animals.

B. When the loading and (or) unloading are undertaken by the consignor and (or) consignee: (a) Goods accepted at the kin rate, or by piece, or live animals—1. In case consignor or consignee undertake both loading and unloading, one-half of the charges mentioned in "A;" 2. In case consignor or consignee undertake either loading or unloading, three-fourths of the charges mentioned in "A." (b) Carload goods.—1. In case consignor and consignee undertake both loading and unloading, 10 sen per ton; 2. In case consignor or consignee undertake either loading or unloading, the sum of one-half of the charges mentioned in "A" and also in 1, b, "B".

Demurrage.—For every 12 hours or less, 30 sen per ton of the capacity tonnage marked on the car.

Weighing charges.—Kin rate goods, $1\frac{1}{2}$ sen per 100 kin; carload goods, 5 sen per ton.

Storage.—For every 24 hours or less: Ordinary goods, kin rate, 2 sen per 100 kin; carload rate, 20 sen per ton. Dangerous goods, kin rate, 5 sen per 100 kin; carload rate, 50 sen per ton.

CLASSIFICATION OF GOODS.

For the levying of freight charges merchandise handled is divided by the South Manchuria Railway Co. into four classes. Fibers and textiles, so far as listed, are in the following classes:

First class.—Clothing (inclusive of shirts, drawers, socks, waistbands, chest and stomach protectors, shawls, gaiters, stockings and foot mittens) of silk, pongee, wool, or fur; cocoons; silk and pongee yarns; manufactured silk; silk or wool bedding; silk umbrellas; embroideries; caps and hats; woollen cloth; carpets and rugs.

Second class.—Yarns of cotton, wool, or hemp; sheeting and other cotton cloths (not enumerated otherwise); cotton or hemp bedding; clothing of cotton or hemp; cotton or paper umbrellas; canvas; blankets; tents; wool; military uniforms consigned to the military; linen cloths.

Third class.—Raw cotton; cotton bags and sacks; raw hemp, lamium, and flax; straw braids; cordage and ropes of hemp, palm, cotton, etc.; wicks; waste-silk yarn and waste cocoons; netting.

Fourth class.—Gunny bags; waste-cotton yarns; rags.

Especially valuable silks and embroideries go by passenger train at a special rate; oiled cloth, oiled cloth tents, and umbrellas of oiled cloth or oiled paper are carried at a special rate as dangerous goods.

Each class of goods takes either a carload or less-than-carload rate, the latter being known as the kin rate, as it is based on the kin (1 kin = 1.32277 pounds, usually considered by the railway as $1\frac{1}{3}$ pounds) instead of on the ton of 2,000 pounds. The minimum quantity accepted at carload rates is 20 tons for cotton cloth and yarn and is the same for most other textiles, but it is only 15 tons for raw cotton. When the 50-ton car is used, 50 per cent is added to the specific carload weight (minimum).

RATES INLAND FROM ENTRY PORTS.

The rates per unit per mile charged on freight in carload and less-than-carload quantities have been shown above, but these rates apply generally to goods shipped from one station to another, whereas goods shipped inland from the entry ports of Newchwang, Dairen, and Antung are given lower specific rates for the different classes. The

specific freight rates from the entry ports to some of the main points in the interior are as follows:

Routes.	Kin rates (per 100 kin).				Carload rates (per ton).		
	First class.	Second class.	Third class.	Fourth class.	Second class.	Third class.	Fourth class.
From Dairen to—	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Tashihchiao.....	0.418	0.330	0.242	0.165	4.40	3.30	2.20
Liaoyang.....	.532	.420	.308	.210	5.40	3.50	2.60
Fengtien (Mukden).....	.600	.470	.350	.255	6.30	4.00	3.00
Tiehling.....	.690	.530	.400	.280	7.00	5.00	4.00
Kaiyuan.....	.768	.600	.447	.305	7.90	5.70	4.20
Changchun.....	1.140	.900	.660	.450	11.00	8.30	6.00
Yingkow (Newchwang)....	.456	.360	.264	.180	4.80	3.60	2.40
From Yinkow (Newchwang) to Changchun.....	1.140	.900	.660	.450	11.00	8.30	6.00
From Antung to—							
Fengtien (Mukden).....	.600	.470	.350	.255	6.30	4.00	3.00
Tiehling.....	.690	.530	.400	.280	7.00	5.00	4.00
Kaiyuan.....	.768	.600	.447	.305	7.90	5.70	4.20
Changchun.....	1.140	.900	.660	.450	11.00	8.30	6.00
Yingkow (Newchwang)....	1.028	.812	.607	.426	10.58	7.21	5.14

Cotton cloth and yarn take the second-class rates. In less-than-carload quantities the freight rate on these goods from Newchwang, Dairen, or Antung to Changchun (the most important distributing center of the interior) is therefore 90 sen per 100 kin, which is the same as 33.883 cents United States currency per 100 pounds. This through rate is the same to Changchun from Newchwang, 300½ miles; from Antung, 359.6 miles; and from Dairen, 437½ miles. In carload lots (the minimum carload weight being 20 tons of 2,000 pounds each) the rate on cotton cloth and yarn to Changchun from Newchwang, Dairen, or Antung amounts to 11 yen per ton of 2,000 pounds, which is equivalent to 27.39 cents per 100 pounds.

STEAMSHIP RATES FROM SHANGHAI TO DAIREN.

Steamship freight rates between Dairen and Shanghai and vice versa are as follows per ton of 15 piculs or 40 cubic feet at ship's option: Class 1, 6 gold yen or taels; class 2, 4.50 yen or taels; class 3, 3.50 yen or taels; class 4, 2.50 yen or taels; class 5, 2 yen or taels. The rates are payable in gold yen for shipments from Dairen and in taels for shipments from Shanghai. So far as relates to textiles the classification is as follows:

- First class.—Silk, raw and manufactured; silk waste; silk umbrellas; silk piece goods; cocoons; caps and hats; clothing (silk, woolen, fur).
- Second class.—Cotton piece goods; cotton knit goods; stockings; clothing of cotton or hemp; wool; woolen yarn; woolen cloth; hemp thread and cloth.
- Third class.—Raw cotton; canvas; cotton yarn; raw hemp; nankeen; hemp rope.
- Fourth class.—Gunny bags; ropes, straw and fiber.

THROUGH RATES FROM SHANGHAI.

The steamship and railway freight tariff on through cargo from Shanghai to the principal ports in South Manchuria follows:

	Class 1.	Class 2.	Class 3.	Class 4.
Steamship rate, Shanghai to Dairen, including transshipment charges, per 15 piculs or 40 cubic feet.....	<i>Taels.</i> 6.30	<i>Taels.</i> 4.80	<i>Taels.</i> 3.80	<i>Taels.</i> 2.80
Railway rate, Dairen to—				
Lushun or Port Arthur—				
L. C. L., per picul.....	.11	.09	.07	.05
C. L., per ton.....		1.11	.94	.68
Yingkow and Liaoyang—				
L. C. L., per picul.....	.41	.33	.25	.18
C. L., per ton.....		4.34	3.32	2.30
Mukden or Fengtien—				
L. C. L., per picul.....	.54	.43	.32	.24
C. L., per ton.....		5.61	3.66	2.81
Tiehling and Kaiyuan—				
L. C. L., per picul.....	.61	.48	.37	.26
C. L., per ton.....		6.21	4.51	3.66
Kungchuling—				
L. C. L., per picul.....	.92	.74	.56	.38
C. L., per ton.....		9.18	7.06	4.85
Changchun and Kwanchengtze—				
L. C. L., per picul.....	.99	.79	.59	.41
C. L., per ton.....		9.61	7.31	5.36
Antung—				
L. C. L., per picul.....	1.21	1.03	.87	.63
C. L., per ton.....		11.69	8.66	6.42

NOTE.—Carload rate named will apply on cargo exceeding 10 tons of 2,000 pounds in one lot and on cargo specifically indicated in tariff.
Minimum charge for each bill of lading is 1.50 taels.
Fractions of ton will be computed as the fraction.
For railway, minimum freight on one shipment is as for 100 catties, and any fraction of 10 catties will be computed as 10 catties. For light cargo weighing not more than 10 catties per cubic foot, each cubic foot will be taken for 10 catties and freight charged accordingly.

CLASSIFICATION OF THROUGH GOODS.

The classification of through goods, so far as relates to textiles, is as follows:

Articles.	Classification.		Articles.	Classification.	
	On steam-ship.	On rail-way.		On steam-ship.	On rail-way.
Canvas.....	3	2	Piece goods:		
Caps, hats.....	1	1	Silk.....	1	1
Clothing:			Cotton.....	3	2
Silk, woolen, fur.....	1	1	Ropes, hemp.....	3	3
Cotton, hemp.....	2	2	Ropes, straw and fiber.....	4	4
Cotton, raw.....	3	3	Silk (raw and manufactured).....	1	1
Cotton cloth and knit goods.....	2	2	Silk (waste).....	1	3
Cotton yarn.....	3	2	Umbrellas (silk).....	1	1
Gunny bags.....	4	4	Wool.....	2	2
Hemp, raw.....	3	3	Woolen cloth.....	2	2
Hemp thread and cloth.....	2	2	Woolen yarn.....	2	2
Nankeen.....	3	2			

NEWCHWANG.

Newchwang is the natural gateway to Manchuria, and until the Japanese developed Dairen and its connections Newchwang was the leading port. The natural increase that would have come to Newchwang has been taken away by Dairen, but it still ranks as one of the important ports of China and does a very large trade. It is the port through which nearly all the American cottons reach the Three Eastern Provinces.

The treaty port that is known to foreigners, and also by the Chinese Maritime Customs, as Newchwang (or Niuchwang, meaning "ox hamlet"), is on the left bank of the Liao River and some 13 miles above the point at which it empties into the Gulf of Liaotung. The correct name of this town, the one by which it is still called by the Chinese throughout Manchuria, is Yingkow (meaning "mouth or outlet of the camp"), while the real Newchwang still exists as a small village some 35 miles up the Liao from its mouth. It seems that according to the Anglo-Chinese treaty of Tien-chin of June 26, 1858, "Niuchwang" was named as one of the ports to be opened to foreign commerce, but on investigation the English found that this port was so far up the river as to be accessible only to the flat river boats. Yingkow, nearer the river mouth, was much more accessible and was available for ocean-going ships, so they chose this as the port and to avoid any trouble about the treaty applied the treaty port name to this point and had the Chinese Customs open it to foreign commerce under this name in May, 1864.

At Newchwang there is a river frontage of some 2,500 feet, of which a portion has been curbed with stone. Any ship that can get over the bar at the mouth of the river can come up the river and alongside the wharves. This bar off the mouth of the river is an extensive one of hard mud, through which there are certain channels that have afforded a depth at high tide of 18 to 20 feet. Dredging operations in progress at the bar and at the wharves at Newchwang will, when completed, it is claimed, give a depth at low tide of 26 feet at all berths.

FACTORS AFFECTING TRADE OF NEWCHWANG.

Most of the beans shipped at Newchwang come down the Liao River in junks, and some cottons and other goods are still shipped up the river in this manner. A few years ago this traffic was seriously menaced by the fact that at Liangchiakou, some distance up the river, the Liao broke through its banks and sought a new way to the gulf, thus tending to reduce the importance of Newchwang by reason of the lower water and the silting up of the river. A stone weir was erected to maintain the water in the Liao, but its operation was opposed by the inhabitants of that section who would have profited by the diversion of the water to the new route. The National Associated Chinese Guilds were appealed to and agreed to urge the completion of this work, as otherwise the prosperity of the port of Newchwang will be impaired considerably, and this work is now in progress.

The prosperity of the port and its continued growth have already been greatly affected by the increase of the trade through Dairen. Formerly Newchwang handled almost the entire trade of Manchuria. Cotton goods and other merchandise were shipped in before the

closing of the port by ice in November, and during the winter, when the frozen roads had become packed hard by travel, these goods were shipped up to interior points on thousands of the Manchu carts that are made with two wheels and drawn by seven ponies each. Before and after the freeze merchandise was also sent up the river in the flat-bottomed river junks that had brought down beans and other produce. With the development of railway connections this cart traffic gradually dwindled until only a few hundred carts are now used and these only for points within a radius of some 40 miles. With the gradual diversion of much of the import and export trade to Dairen, which is open the year round, the trade at Newchwang has suffered. Newchwang is closed by ice usually from the latter part of November until about the middle of March. During the open season mail and passengers, as well as some freight, are brought by rail from Tientsin and Chingwantao to the Chinese station on the right bank of the Liao and are ferried across, but when the river is closed by ice there is no traffic this way, and mail from China proper comes by way of Mukden.

The Liao is still used largely for bringing beans down from the interior as far up as Tiehling, but the great bulk of the cotton goods is now shipped to the interior entirely by rail. Newchwang is 137 miles nearer by rail to Mukden and other points in the interior than Dairen, but the freight rates quoted by the South Manchuria Railway are the same from both ports.

CHARACTER OF INHABITANTS.

The Chinese Customs estimate the population of Newchwang at 61,000, which makes it the largest of the ports of Manchuria. Newchwang, together with the entire coast section of southern Manchuria, was formerly under the jurisdiction of Shangtung Province. It was largely settled by people from that Province and their dialect is still used. The trade is almost entirely in the hands of Shantung men and their descendants. Thousands of Shantung coolies are brought over from Chefoo every year to aid in the sowing and harvesting of the bean and other crops of Manchuria, usually coming over in the spring and returning in the fall; some of these remain as permanent settlers. In every Manchurian town crowds of these coolies, together with local coolies, come together at the "coolie fairs," offering themselves for hire as farm hands, usually in bands of 30 to 300 or more. They are hired by the year, by the month, or by the day, the last mentioned being most usual. Wages vary according to the place as well as the supply and demand, but the annual wages range from 40 to 70 silver yen, and the monthly wages from 4 to 8 silver yen. The day laborers are paid from 20 to 30 sen in the sowing season, 30 to 40 sen at weeding, etc., about 25 sen in the harvesting season, and 20 to 30 sen for thrashing, the men in all cases boarding with their employers.

The Chinese peasants in Manchuria, especially tenants who cultivate lands on lease, have to work hard from day to day, and the days of respite for them may be numbered on the fingers, viz, from New Year's Day to the fifth of the first moon, the fifteenth of the same moon, the Dragon Festival in the fifth moon, and the Mid-Autumn Festival. In addition the peasants feast together on one or more village festival days that are usually associated with some local legend.

After the crops have been placed in the granaries the farmers at once begin manuring the fields, and when the cold makes field labor impossible they keep busy repairing agricultural implements, dredging ditches, etc. The great bulk of the population is agricultural, and as merchants have to wait on the returns of the crops for their payments most sales have to be on time.

TRANSPORTATION ROUTES AND FREIGHT RATES.

Most of the cotton goods entered at Newchwang come from Shanghai, from which there are three regular lines. The China Navigation Co. (Ltd.), usually known from its agents as the Butterfield & Swire Line, has a sailing every week, and takes 3 to 3½ days for the trip. The Indo-China Navigation Co., with Jardine, Matheson & Co. as agents, also operates a regular line with about the same number of sailings, while the China Merchants Steam Navigation Co. has Chinese agents and usually operates weekly but with no regular schedule. From Japan the Nippon Yusen Kaisha operates one line from Kobe to Newchwang via Moji and Taku (every alternate steamer calling at Nagasaki) and taking 7 to 8 days for the trip, with a sailing every 6 days. The same company also operates a line from Yokohama to Newchwang via Nagoya or Yokkaichi, Kobe, Moji, Chemulpo, Dairen, and Taku, making the trip in 15 days, with sailings alternately 7 and 14 days apart. In addition to regular lines there is a considerable coastwise junk trade.

The steamship lines quote the freight rate on cotton goods from Shanghai to Newchwang as 6 taels per 40 cubic feet, but the Chinese merchants who import state that they pay 7 taels, which, however, probably includes a broker's profit. The Nippon Yusen Kaisha gives the rate on cotton goods from Kobe to Newchwang as nominally 5 yen per 40 cubic feet, but rebates are given according to the size of the firm and the amount shipped. The principal importers of cotton goods are the Japanese firms of Mitsui Bussan Kaisha and Nisshin Yoko, both of which get a 10 per cent rebate and are therefore paying only 4.50 yen. Most smaller firms pay 4.80 yen, which is equivalent to a 4 per cent rebate. Hung Li Ho is stated to be the chief Chinese firm importing direct from Japan. A bale of sheeting measures about 8 cubic feet, a bale of drill 6 cubic feet, and a bale of yarn 10 cubic feet. Five bales of sheeting (equal to 40 cubic feet) contain 4,000 linear yards of 36-inch sheeting. In February, 1914, the Chinese importers were paying 7 taels per 40 cubic feet, less 5 per cent for shipping by one of the three regular lines in the pool, from Shanghai. The Shanghai tael being taken as 64 cents United States currency, this is equivalent to \$4.256. The two largest Japanese firms were paying, for 40 cubic feet from Japan, 5 yen less a 10 per cent rebate, or \$2.241. On 36-inch sheeting, therefore, the freight from Shanghai amounted to 0.1064 cent per yard, as against only 0.056 cent per yard from Kobe.

BANKING AND CURRENCY.

The main banks at Newchwang are the Russo-Asiatic Bank, the Yokohama Specie Bank, the Bank of China, and the Bank of Communications (Chinese). The firm of Jardine, Matheson & Co. acts as

local agent of the Hongkong-Shanghai Banking Corporation. The Yokohama Specie Bank is of much assistance to Japanese trade here and also extends some facilities to the larger Chinese firms, but it does not usually give much accommodation to the white foreigners, and their trade with Europe, Shanghai, and the interior in both exports and imports is handled mainly through the Russo-Asiatic Bank.

The currency question in Manchuria is a puzzle, and nowhere is it more so than at Newchwang. There are numerous mediums of exchange besides the Newchwang transfer tael, on which local business is largely based and which amounts to nothing more than an I. O. U. One unsettling element is the effort of the Government banks to force merchants to accept paper money not backed by reserves. The fluctuating value of the various moneys puts business on a speculative basis, and there can not be safe and sound trading until the currency becomes stable. This element of speculation is favored by some as affording opportunities for unusual profits, but so many have been hard hit in recent years, especially by fluctuations about the quarterly settling periods as well as fluctuations due to outside causes, that there is a strong demand for a stable currency. Many merchants do not think this is possible. One of them, on being informed that money in America had a fixed value, inquired why, then, American cloth values varied. He was so accustomed to money as well as cloth being treated as an object of barter that he could not understand how one could be more stable in value than the other.

Some idea of the currency question at Newchwang can be obtained from the following partial exchange quotations for February 10, 1914. It should be borne in mind that the values of these and other mediums vary from day to day:

\$130 small coin=100 gold yen.
 \$133.60 small coin=100 rubles.
 \$121 small coin=\$100 Mexican.
 \$119.10 small coin=100 silver yen.
 \$100 small coin=76.80 Newchwang transfer taels.
 \$100 small coin=56.70 hard Sycee taels.
 \$100 small coins=\$101.70 small coin paper notes.
 100 transfer taels=75 Shanghai taels.
 124 rubles=100 Shanghai taels.
 107 transfer taels=100 rubles.
 \$100 Mexican=60.80 hard Sycee taels.

As 100 gold yen is equivalent to \$49.80 United States currency and 100 gold yen equaled \$130 small coin dollars and \$100 small coin equaled 76.80 Newchwang transfer taels, the value of the transfer tael was equivalent to 49.88 cents United States currency on that date.

LOCAL PRICES OF COTTON GOODS.

The Newchwang Chamber of Commerce (native) publishes in the Chinese language a daily trade paper giving information of interest to the merchants, including quotations on some of the principal commodities, such as beans, kaoliang, millet, and rice, and also on some of the main chops of cotton goods and yarns. These quotations are in Newchwang transfer taels, which on February 10, 1914, had an exchange value of 49.88 cents United States currency. The following

are the textile quotations of that day and their equivalents in United States currency:

Articles.	Wholesale prices.		Articles.	Wholesale prices.	
	Trans-fer taels.	United States cur-rency.		Trans-fer taels.	United States cur-rency.
Cotton yarns, per bale of 400 pounds:			Grey sheeting, per 100 Chinese feet (40 yards)—Continued.		
No. 6, Foreign Lamp.....	115.00	\$57.362	Three Birds on Drum.....	4.95	\$2.469
No. 10, Red Man and Bamboo	134.00	66.839	Pine and Deer.....	4.80	2.394
No. 10, Man Carrying Tea....	134.50	67.089	Grey drills, 80 Chinese feet (30 yards):		
No. 16, Unieorn.....	152.00	75.818	Horse.....	6.90	3.442
No. 16, Bluefish.....	156.00	77.813	Three Fish.....	6.10	3.043
No. 20/2, Sun and Crane.....	171.00	85.295	Dragon Head.....	6.50	3.242
No. 20/2, Eight Immortals....	177.00	88.288	Pair of Geese.....	5.85	2.918
No. 20/3, Eight Immortals....	177.00	88.288	Grey jeans, 80 Chinese feet:		
No. 32/2, Pair of Deer.....	215.00	107.242	Three Stags' Heads.....	5.80	2.893
No. 32/3, Pair of Deer.....	225.00	112.230	Stag's Head.....	5.20	2.594
Grey sheeting, per 100 Chinese feet (40 yards):			Seven Lines and Squirrel.....	5.15	2.569
Buck's Head.....	7.40	3.691	Chicken and Squirrel.....	5.10	2.544
Dog's Head in Circle.....	7.35	3.666	Shirting, 100 Chinese feet:		
Horse and Dog.....	6.83	3.407	Two Men and Gun.....	7.60	3.791
Three Rabbits.....	6.73	3.357	Round Dragon, bleached.....	8.60	4.290
Foreign Cat.....	6.70	3.342	Round Deer.....	7.60	3.791
Pot and Peaches.....	5.55	2.768	Five Colored Bells.....	6.70	3.342
Nine Dragons.....	5.45	2.718			

The No. 6 and No. 10 cotton yarns listed are Indian, the remainder Japanese. The "Seven Lines and Squirrel" jeans are the Pepperell jeans, whose "beaver" is usually called "squirrel" by the Chinese. The similar beaver chop of Ward, Probst & Co. (English) has only six lines of lettering and is called "Six Lines and Squirrel" chop.

The foregoing are the chops now regularly quoted in this trade paper, but in addition many chops not listed are quoted by the merchants. It is to be noted that 2½ Chinese small feet are equal to 1 English yard, therefore 40-yard cuts of sheetings and drills are equal to 100 Chinese small feet. In the same way 30-yard lengths of jeans would be equal to 75 Chinese small feet, but these are given in round figures as 80 Chinese small feet; also, though Reiss Bros. "Round Dragon" white shirting is actually 41½ yards long, it is quoted in round figures as 100 Chinese small feet.

The prices quoted on cloths in the trade paper at Newchwang are higher than those given by merchants in interior towns a week or more later, but they are given as printed. The difference is probably due partly to the fact that the merchants frequently make sales lower than officially stated and also to the fact that the Newchwang prices were quoted just after the fluctuations due to the settlements at the end of the Chinese new year and before prices had had time to adjust themselves to the revival of trade after the holidays.

PRINCIPAL IMPORTERS OF COTTON GOODS.

Most of the cotton goods imported at Newchwang come from Shanghai and are imported by Chinese. The principal foreign importers handling cotton goods are A. Van Ness & Co., Arnold Kärberg & Co., and Julius Jasperson. The principal Chinese importers

of cottons are given as being Hung Li Der, Shih Chang Der, Yuen Chang Tung, Ta Sheng Hung, Hung Li Ho, Shing Sheng Lu, Shing Gee Tzan, and Fu Yow Chang. According to statistics of imports by both ship and rail, American cotton goods still predominate in the trade of this place, the only point in Manchuria in which they still lead, but increasing competition is being offered by the Japanese. In addition to the American and Japanese cottons, both mainly in grey goods, there is a large import of Chinese hand-woven nankeens and a smaller trade in Shanghai mill sheetings, as well as a considerable trade in English cottons, such as white shirting, Venetians, poplins, and jeans.

The chief article in the piece-goods trade of this port is grey sheeting and shirting; the difference between these two is not clearly defined, hence they may be lumped together. Nankeen, jeans, and drills, with a smaller quantity of a wider range, are the other articles handled.

TRADE IN GREY SHEETING.

The bulk of the grey sheeting now used in Manchuria is of Japanese manufacture, but this enters mainly through Dairen and Antung, and at Newchwang itself American sheeting still seems to predominate. In hand-woven nankeen the Japanese are contesting the market with the Chinese and seemingly gaining. In jeans the English have displaced the American, and very little of the latter is now seen; the Japanese trade in this article is increasing, but is still much less than that of the English. In drill the situation is the same as in sheeting; the Japanese have the bulk of the trade in Manchuria as a whole but in Newchwang the Americans seem to be slightly in the lead, though the Japanese are rapidly gaining. A feature of the market is that jeans are displacing drills to a large extent and that the demand for sheeting is now mostly for 3-yard and lighter weights, the heavier sheeting being sold to a smaller extent than formerly.

The two American sheetings that are now the recognized market leaders at Newchwang are the "Horse and Dog" chop of the Loray Mills, of Gastonia, N. C., and the "Three Rabbits" chop of the Abbeville Cotton Mills, of Abbeville, S. C. Both are nominally 36 inches wide, finishing 48 by 48 ends per inch, and weighing 3 yards to the pound. Next to these the most largely sold American sheeting is the "Three Birds on Drum" of the Piedmont Manufacturing Co., of Piedmont, S. C. This is a 36-inch sheeting that weighs 4.70 yards per pound and is very popular for lining. Owing to the higher cost per yard of heavy sheetings the demand has greatly declined, and sales of 2.85-yard sheeting are not one-tenth those of 3-yard goods. Of the 2.85-yard sheetings that still enjoy a fairly good demand, the most prominent are the "Buck's Head" of the Pacolet Manufacturing Co., of Pacolet, S. C., and the "Large dog's head in circle" of the Whitney Manufacturing Co., of Spartanburg, S. C. In addition to the five above mentioned, smaller amounts are sold of various other chops, such as the "Cow and Straw" (Buffalo calf), "Dog and Deer," "Fox Head," "Running Wolf," "Stag and Pine," "Stag and Dog," "Two Rabbits," "Cats," "Parrots," "Large Hawk" (Eagle), and "First Class Birds." Owing to its weight and quality, the 2.85-yard "Buck's Head" brings a higher price than any other sheeting on this market, but the price restricts its extensive use. Inquiry as to

"Indian Head" (known to the Chinese as "Big Devil's Head"), "Small Dog's Head," "Man and Globe," "Horse and Rider," and other American sheetings that formerly sold well, caused the merchants to evince the interest that is shown at the mention of old but well-nigh forgotten friends and brought the reply that they were good cloths but that they had not been seen for several years.¹ The Chinese Maritime Customs list "Three Birds on Drum" and other light-weight sheeting as shirting, the distinction between sheeting and shirting being roughly taken as those weighing over or under 9 pounds per 40 yards, but the dividing line does not seem always to be clearly marked, and grey sheeting and grey shirting should therefore be lumped together.

LEADING JAPANESE CHOPS.

Formerly, when the Japanese were starting their selling campaign in Manchuria, their main crop was the "Two Crabs," made by several Japanese mills and sold by Mitsui Bussan Kaisha (the trade-mark being owned by this firm), but as this was a 2.85-yard sheeting there is very little of it now on the market. The Japanese mills now sell mainly under their mill chops, though they also put the private chops of Japanese dealers on their regular cloths where desired. Their main sheetings are now the "Nine Dragons" of the Kanegafuchi Boseki and the "Dragon C" of the Miye Boseki. These are nominal 36-inch sheetings, the former being stated by the Japanese to weigh $13\frac{1}{2}$ and the latter $13\frac{1}{2}$ pounds per 40-yard cut. Some Chinese merchants considered these 3-yard goods, but others said that owing to the heavy sizing they could not place them on the same basis as the American pure-sized sheetings and so usually considered them as 3.25-yard goods, as that is about what they would be after the excess sizing was washed out. There is a smaller sale of several other chops, such as "Pot and Peaches" (showing a small peach tree in a pot), "Chinese Citrons" (showing two of the Chinese citrons that are sometimes referred to as "Buddha's Fingers"), "Butterfly in triangle," "Two Dragons," etc., together with a small amount of the 2.85-yard "Rooster in Circle," etc., but they do not seem to have as many sheeting chops on the Newchwang market as they have at Mukden, Changchun, and other interior towns. The Japanese sheetings have been much improved in quality, but as they are made of inferior cotton and are heavily sized many merchants still stick to the American sheetings, owing to their better quality and to the fact that they have long-established connections in handling these goods. The Japanese sheetings, however, are so much cheaper that it is becoming increasingly difficult for the merchants, whatever their individual preference, to continue handling the higher-priced goods. A comparatively new feature of the market is the increasing amount of Shanghai sheetings now coming in. Sales of these sheetings, which are made on power looms in the mills at Shanghai, are very small as compared with those of either American or Japanese goods, but they show a tendency to increase and Shanghai sheeting will probably in the future become a factor to be reckoned with. The

¹ Several of these American chops that have disappeared from Manchuria still enjoy a good sale at Tientsin and other points in China proper.

main chops seem to be the "Cow," the "Two Stags," "Two Horses," and the "Flying Dragon." These sheetings have a harsh feel and seem much inferior to the Japanese in weaving.

HAND-WOVEN NANKEEN.

Next to grey sheeting (including grey shirting) the largest demand seems to be for the narrow hand-woven nankeen. The weaving of narrow nankeen on hand looms is a very large industry in China, especially in the Yangtze Valley, and a large amount is exported annually from Shanghai to Manchuria through the port of Newchwang. The customs list the Chinese nankeen by weight and the Japanese nankeen (called by them "Japanese cotton cloth") by length, hence an accurate comparison of the imports is difficult, owing to the variations in width, weight, and length of pieces. However, it is clear that the Japanese are gaining a very large share of this trade. Japanese and Chinese nankeen usually comes in pieces from 22 to 24 yards long; the Japanese ship chiefly in lengths of about 54 shaku (shaku = 14.913 inches) and the Chinese in lengths of 38 Chinese big feet (Chinese big foot = about $21\frac{1}{3}$ inches). The Japanese usually put 60 pieces in a bale, each bale containing only one variety and being covered with burlap, like sheeting bales. The Chinese usually ship several varieties, totaling about 40 pieces in a bale and use no extra covering; they put the cloth up in circular form around a hollow core and bind with ropes. Most Chinese nankeen is pure-sized and unbleached while the Japanese is usually half-bleached and also starched. The Chinese merchants state that the Japanese cloth is usually better woven and has a better feel (the latter probably being due to the mixing of Indian cotton with the harsher Chinese cotton exclusively used by the Chinese) and that the more attractive appearance of the Japanese nankeen and the manner in which it is packed largely aid its sale.

JEANS AND DRILLS.

Grey jeans are largely sold at Newchwang. A jean is really a fine-woven drill of finer yarn and as it has a more dressy appearance, besides being stronger and wearing better, it is now displacing drill to a large extent for use singly in the summer and for the outer covering of the padded clothes used in the winter. When I was in Manchuria in the fall of 1906 the demand in this line was dominated by the "Beaver" jean, 29 inches wide, 3.55 yards per pound, in 30-yard cuts, supplied by the Pepperell Manufacturing Co., of Biddeford, Me. This is now rarely seen and has been supplanted by English jeans, mainly those made by the mills of Richard Haworth & Co. (Ltd.), of Manchester, which come in lengths of 30 and 40 yards. There are several English "Beaver" chops now on the market, especially those bearing the names of Alfred Dent & Co., of Shanghai, and Ward, Probst & Co., of Shanghai (both made in England), also chops sold directly under the brand of Richard Haworth & Co., such as "Stag's Head," "Three Stags' Heads," and "The World, John Bull, and Chinaman," the last named being sometimes called the "Atlas" chop, as it shows John Bull reaching out the Haworth crest across a map of Europe and Asia to a Chinese.

Despite the popularity of jeans there is still a large sale of drills, and in these the Japanese are rapidly gaining the market. In drills, as in sheetings, the 3-yard and 3.25-yard now find a better sale than the 2.85-yard. In drills the best selling American goods seem to be the "Standing Horse" (Unicorn) of Pelzer Manufacturing Co., the "Flying Horse" of the Massachusetts Mills, the "Two Rabbits" (Cameron Mills), and the "Dragon" or "Griffin" of the Pepperell Manufacturing Co., followed by others, such as "Man, Horse, and Bow" (Centaur), "Horse and Rooster," "Eagle Family," "Three Fishes," etc. The leading Japanese drills are the "Dragon Head" and the "Blue Geese" (or "Pair of Geese") of the Miye Boseki, which are followed by the "Phoenix," "Bats," "Rooster in Circle," "Elephant in Star," and others. The American drills are mostly 72 by 48 or 70 by 46 construction; the Japanese "Dragon Head" and "Bats" and "Litaibai" (a Chinese saint) chops are of about the same construction, but cheaper; however, the Japanese have gained the market largely through the use of cheaper drills, about 60 by 40 construction, such as the "Geese," "Phoenix," and other makes.

GREY AND WHITE SHIRTING—T CLOTH.

As above stated, the customs list a large number of ordinary 36-grey sheetings of light weight under the heading of "grey shirtings." In addition to these, there is a considerable sale of grey shirting of the standard English type, about 38 to 39 inches wide and 38 to 39 yards long, these weighing mostly between 7 and 11 pounds per piece, with constructions varying from 14 by 11 to 18 by 20 ends per quarter inch. The standard grey shirting of this kind is that weighing $8\frac{1}{4}$ pounds per $38\frac{1}{2}$ -yard length, $38\frac{1}{2}$ inches wide, and having 60 by 56 ends per inch. Most of these have head ends consisting of a few picks of coarse and tinsel yarns at the end of each cut.

The white-shirting trade is still almost entirely English, though the Japanese are now competing with a few makes. These cloths are mostly 35 inches wide, running from 32 to 37 inches, and in lengths of 40 to 42 yards. The most popular make is the "Round Dragon" chop (showing a Chinese dragon curled up inside a circle) of Reiss Bros., Manchester. This is $35\frac{1}{36}$ inches wide, about 68 by 60 construction, and weighs 12 pounds per piece of $41\frac{1}{2}$ yards.

The imports of T cloths are very small and are mainly English goods with colored head ends; the Japanese ship in a few without head ends. These are usually 31 inches wide and either 24 or 40 yards long.

VELVETS, VELVETEENS, POPLINS, CHINTZES, ETC.

The cotton velvets and velveteens formerly were entirely from England, but in the last few years the English have had to divide the market with the Russians. The English cotton velvet is mostly 22 inches wide and 30 to 35 yards long, while the Russian is mostly 18 inches wide and about 50 yards long.

The English have a good sale in 30-inch, 30-yard poplins, and there is also a good sale of their 30-inch chintzes and cretonnes, but in ordinary shirting prints the Russians are driving them off the mar-

ket. The Russians have concentrated on this article and are rapidly gaining the entire Manchurian trade. By giving away samples, establishing numerous agencies, giving long credits, selling any quantity desired from their large stocks, etc., they have developed this business to an importance it never before attained. These prints are mostly 24/25 inches wide, with a few wider, and they are claimed by the Chinese merchants to be of faster colors and more attractive designs than those shipped here by the English, besides being cheaper. Large stocks and longer credits seem to aid the Russian trade in this line more than the lower prices.

There is a steady demand for Venetians with a Schreiner finish that makes them resemble silk. These are exclusively from England, are 30 inches wide, and weigh 14 and 14½ pounds per 30-yard cut. The demand here is for slightly wider Venetians than are used in the southern part of China, where the English sell few Venetians over 29½ inches and where the demand is mostly for 28 and 29 inch goods. There is now but a small demand for Italians and a declining demand for black lastings. These latter have a hot-press finish and the Chinese claim that when used for outer clothing they spot badly in rain, so they prefer to use either Venetians or jeans; the English ship in a fair amount of jeans dyed black.

The Turkey-red cambrics are all English, mostly 36-inch 40-yard cuts, but the Japanese ship in some 31-inch Turkey-red shirtings that are really dyed T cloths. The trade in each is small.

Cotton flannels have a fair sale, and the "Locomotive" chop of the Tremont & Suffolk Mills, of Lowell, Mass., is among the most popular. The Chinese merchants state that they buy two kinds of these, one labeled "GH" that is 26 Chinese inches wide and the other labeled "GE" that is 24 Chinese inches wide. Canton flannels have a small sale; they are 30 and 36 inches wide, mostly the former.

HANDKERCHIEFS, TOWELS, BLANKETS, AND YARN.

Handkerchiefs are mainly English, with a small amount from Japan. Those for men are generally plain white, and those for women fancy bordered; the latter trade is much the largest.

Narrow cotton towels are imported from Japan for use as face towels; for bath purposes the Chinese ordinarily prefer the scrubbing qualities of the plain rough nankeen.

The cotton blankets imported are mainly the cheap varieties made with cotton waste filling. The two principal sizes are the 3½-pound, 56 by 78 inch, and the 5-pound, 68 by 88 inch. The kind most largely imported is grey, with stripes at the end, and comes from France; a slightly better blanket, in red, manufactured by Van Heek, of Enschede, Netherlands, has a good sale. A few blankets are also imported from Japan.

The cotton-yarn trade is mainly for 16s and under, with a smaller amount of 20s, 32s, and 42s in ply. Counts under 16s are mainly Indian; 16s and above are almost entirely from Japan.

RAILWAY TRANSPORTATION AT NEWCHWANG.

In studying the trade of Newchwang one has to consider the import and export of goods by rail as well as by water. The Peking Mukden Line of the North China Railway runs from Peking, via Tien-

tsin, Shanghaikwan, and Hsimnintun, to Mukden. At Koupangtze a line branches off and runs 59 miles to Newchwang, or rather to the west bank of the Liao River, across which one is ferried, when the river is open, to Newchwang. During the open season mail, passengers, and a very small amount of goods enter Newchwang in this manner from the west. During the winter there is no traffic this way. On the east side of Newchwang is the Japanese settlement containing the terminal of a branch of the South Manchuria Railway that connects with the main line at Tashihchiao, some 14 miles away. During the winter some cotton goods, mainly Japanese, enter this way by rail from Dairen, and most of the cotton goods that are shipped north to the interior from Newchwang now go by this route; only trifling amounts are now shipped up the Liao River.

IMPORTS BY RAIL AT NEWCHWANG.

Upon request the wharf office of the South Manchuria Railway Co. compiled the following statement of the amount of goods entered by rail at Newchwang during 1911, 1912, and 1913. No record is kept of value, and the quantities are all in tons of 2,000 pounds each.

Articles.	1911	1912	1913
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Bags, gunny.....		618	1,001
Bean cake.....	13,569	11,912	15,255
Beans:			
Green.....	2,808	2,336	811
Small.....			710
Other.....	66,132	86,279	109,304
Bristles, pig.....			487
Canned goods and provisions.....			294
Cereals:			
Kaoliang.....	5,505	23,061	6,644
Corn.....	841	638	1,870
Italian millet.....	730		
Rice.....	865	1,155	499
Other kinds.....	1,085	1,682	2,193
Cloth, cotton.....	1,382	3,695	2,953
Coal.....	215,161	248,247	384,113
Cotton yarn.....	511	690	889
Firewood and charcoal.....		1,489	3,228
Flour.....	4,654	1,627	1,348
Medicinal and dyeing materials.....	767	1,420	1,670
Metals.....	920	1,169	1,219
Oil:			
Bean.....	641	1,365	1,019
Kerosene.....			380
Paper.....			532
Samshu.....	1,209	1,778	2,607
Seeds, melon.....			1,049
Stones.....	18,630	5,773	7,802
Twigs, willow and others.....			528
Sundry articles for use of railway.....	14,927	582	39,200
Timber.....	1,561	2,162	3,485
Tobacco, all kinds.....	736	1,354	2,271
Vegetables and fruits.....	680	696	672
Articles, unenumerated.....	6,281	7,223	7,227
Total.....	359,595	406,951	601,260

This shows that the principal article brought into Newchwang by rail is coal, and the great bulk of it is for the railway. Of regular merchandise the chief articles are beans and bean cake. The imports by rail of cotton cloth and cotton yarn are small. Taken in conjunction with the larger imports by sea, as compiled by the Chinese Maritime Customs reports, the figures show that the bulk of the

cotton cloth used in Newchwang itself is of American rather than Japanese origin.

SHIPMENTS FROM NEWCHWANG.

The quantity of merchandise forwarded from Newchwang to the interior via the South Manchuria Railway in 1911, 1912, and 1913 was as follows:

Articles.	1911	1912	1913
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Bags, gunny.....	1,791	2,689	2,504
Bamboos.....	1,146	2,120	1,161
Bricks.....		1,240	3,375
Candles.....	856	798	416
Canned goods and provisions.....	1,417	1,540	1,188
Cereals:			
Rice.....		622	3,243
Other.....	2,922	4,136	4,465
Cloth, cotton.....	19,668	20,743	16,820
Cotton, raw.....	1,163	2,753	2,904
Cotton yarn.....	2,715	3,687	2,033
Earthenware and chinaware.....	3,858	5,112	5,011
Fish, fresh and dry.....	2,913	3,172	3,523
Flour.....	1,195	3,729	2,721
Mats of all kinds.....	2,200	3,276	4,986
Medicinal and dyeing materials.....	3,919	4,385	4,634
Metals.....	6,845	7,571	7,035
Miso and soy.....			485
Oil: Kerosene.....	22,177	18,903	18,700
Paper, all kinds.....	7,828	8,503	7,828
Receptacles.....	864	1,850	1,354
Reeds and hay.....	1,038	2,454	758
Sake.....	952	712	858
Salt.....	50,253	39,776	63,283
Samslu.....			509
Stones.....			294
Sugar.....	10,219	14,691	12,994
Sundry articles for railway.....	9,776	3,765	5,049
Tea.....	1,607	1,954	1,831
Timber.....	4,782	3,486	2,766
Tobacco, all kinds.....	2,359	2,967	2,450
Vegetables and fruits.....	2,488	3,257	3,165
Articles, unenumerated.....	9,938	9,626	9,819
Total.....	176,889	178,517	198,162

DAIREN.

The Kwantung Leased Territory, sometimes known as Kwantung Province, lies at the southern extremity of the Liaotung Peninsula. Its area is stated by the Japanese as 219 square ri (1,300 square miles) and its population as about 500,000, of whom about 50,000 are Japanese exclusive of the Japanese army and naval forces. This territory was formerly included in Shengking Province but in 1898 Russia obtained control on a 25-year lease from China. As a result of the war of 1904-5 the unexpired portion of the lease was taken over by Japan and the territory is now administered by that country. The only two places of importance are Dairen and Port Arthur. Port Arthur, called by the Japanese Ryojun, was heavily fortified by the Russians, but after its capture by the Japanese all the forts were dismantled except those at the entrance. The harbor at Port Arthur is small and inconvenient and is not used for commerce. Under the Japanese, Port Arthur is used as headquarters for the Japanese army of occupation, but otherwise its population has decreased, many shops have been closed, the buildings throughout the town are falling into

disrepair, and its local trade has greatly decreased from what it was under Russian rule.

On the other hand Dairen, called by the Russians Dalny ("the distant"), has greatly increased in importance under Japanese rule. This town lies on the south shore of Talienwan Bay, in the southeastern extremity of the Leased Territory, and 38.9 miles by rail from Port Arthur. Dalny was founded by the Russians, during their occupation of Kwantung, as the southern terminus of the Russian railway from Harbin to the sea. Their object was to obtain a seaport in the Far East that would be open the year round, as the other terminus of the Russian railway at Vladivostok was closed by ice much of the year. The Russians planned a model town with well-constructed streets and substantial buildings of brick and stone and spent much money. They also had ambitious projects as to the port facilities and commenced piers and breakwaters, but these were in an incomplete state at the time the place was taken over by the Japanese.

The Japanese have extended the main west pier and doubled its width, as well as working on the completion of other piers, including a new oil pier; they have built breakwaters to protect the port and dredged the harbor and the fairway outside. The harbor facilities are now very good and are being steadily improved, at heavy cost, to make this one of the best ports of the Far East and capable of accommodating the largest ships. Dairen is the southern terminus of the South Manchuria Railway, whose main line runs north to connect with the Russian line to Europe at Changchun (Kwan-chengtze). Since the Japanese occupation Dairen has been the main entry port for Japanese goods; its importance has so increased that it has supplanted Newchwang as the leading port for Manchuria and has become one of the most important ports of all China. It is the chief export port for beans and the principal import port for cotton goods, the two leading articles in the trade of Manchuria.

FORTIFIED ZONE ACT—CUSTOMS ADMINISTRATION.

The South Manchuria Railway wharf office is seriously handicapped by the operation of the fortified zone act on the Dairen wharves. Permission of the Ryojun (Port Arthur) fortress office must first be obtained when buildings are to be erected in the compound, and none of a permanent character are permissible. Under the act all buildings are subject to removal whenever ordered. Under these limitations the railway a few years ago, erected a number of warehouses of a temporary character, which may more properly be called goods sheds, at an outlay of 200,000 yen, and introduced a good fire-insurance service. The present warehouse service, however, hardly gives a sufficient guaranty of protection against fire, rats, wet, etc., and though the military authorities have allowed raised concrete floors to be installed in some of the warehouses, they still prohibit any permanent buildings. Efforts are now being made by the railway, aided by the commercial interests, to get the authorities to permit the erection of standard warehouses of a permanent character.

In accordance with an agreement concluded in June, 1907, between Japan and China respecting the establishment of a maritime custom house at Dairen, it was decided to make the whole of the leased

territory of Kwantung a free zone, that is, goods brought by sea to Dairen are subject to import duties only when they cross the boundary of the leased territory into China, and those coming from China into the leased territory pay export duties only when they are exported from Dairen. For the collection of these export and import duties a customhouse under the control of the Chinese Government was established at Dairen and opened on July 1, 1907. The Commissioner of Customs and his force are Japanese and their control of the customs have given rise to dissatisfaction among the Chinese and foreign merchants who import through Newchwang.

In regard to smuggling the Manchuria Daily News of Dairen, under date of March 5, 1914, stated:

The Chinese Government, with a view to preventing the smuggling of duty-free goods into the interior of Manchuria through the Kwantung Leased Territory, has repeatedly requested the Japanese Government to place the customs system at Dairen on a footing similar to what obtains at the port of Tsingtau. The Japanese Government, however, declines to define its attitude on the subject before it has made exhaustive study thereof worthy of its serious bearings upon the Japanese interests in Manchuria.

EFFECT OF ALL-RAIL SHIPMENTS THROUGH CHOSEN.

Goods entering Manchuria from the Kwantung Leased Territory are supposed to pay full duty, while since June 2, 1913, goods entering Manchuria across the Yalu River bridge at Antung from Chosen are entitled to a one-third reduction. This reduction of duty applies to all goods entered by rail at Antung, without regard to the country in which they originate. The Chosen Government Railways, with a view to increasing their volume of traffic, have greatly reduced their freight rates and have special through rates from Japan via this route. The South Manchuria Railway had agreed to combine with the Imperial Railways of Japan and the Chosen Government Railways to give a special reduced rate to Mukden, but on protest of the Dairen business men has withdrawn from its part of the agreement. The Japanese importers at Dairen have been much exercised over the increased competition of the Antung route and also at the proposal to limit the free-trade zone in the Kwantung Leased Territory and to narrow it to a free-trade zone embracing only the wharf compound at Dairen. In this connection the following article in the issue of the Manchuria Daily News for March 3, 1914, is of interest:

The Dairen Business Men's Association has drafted a representation to be presented to the Imperial Government Railways, the South Manchuria Railway Co., etc. It is pointed out that the bulk of the imports for consumption in Manchuria used to be brought in via Dairen and Yingkow. According to the customs returns for 1912 the imports to South Manchuria aggregated 76,401,570 taels, of which 47 per cent entered via Dairen, 45 per cent via Yingkow, while Antung and Tatungkow combined accounted for only 8 per cent. Early in June, 1913, when the reduction of the customs duties by one-third at Antung took effect and the specific through freight rates over the Imperial Government Railways and the Chosen Government Railways were brought into operation in August, 1913, on through goods booked to Manchuria from Japan, the tendency of imports from Japan being attracted to the Chosen route began to manifest itself, and the through goods traffic via what is often known as the "overland route" via Chosen and Antung quickly increased at the expense of the port of Dairen. The association is doubtful if the port of Dairen will be the only sufferer from the effects of the artificial diversion of Manchurian imports to the Chosen route. In their opinion such a diversion will disorganize the trade channel via Dairen that has served the commercial interests of Japan during almost ten years past. This in itself will be detrimental to the development of the Japan-Manchurian trade. Japan being situated most advantageously with Manchuria, there exists no call for the further

reduction of the through railway freights such as the specific through rates under notice. For, it will be competing against the Japanese, whose vested commercial interests command due respect and ought not to be trampled down wantonly. Another salient feature of the argument is that Mukden or any other center north thereof should not be made the base of Japanese trade operations, in other words, the accumulation center for Japanese imports, because the Chinese consumers will readily see whether the Japanese are overstocked or short stocked and will play their games accordingly. On the other hand, the port of Dairen is equipped with the up-to-date harbor appointments which have already cost the South Manchuria Railway Co. an enormous outlay. This port is provided with enormous warehousing accommodations at reasonable rates and with free insurance service. Any surplus stocks may be shipped away to Shantung ports, to Tientsin, or to Shanghai. Again, if the Chosen route comes to absorb imports from Japan, the port of Dairen will pass into an export port, ceasing to be an import port of any consequence, which will put a check to the growth of this port.

Later the same paper, under the head of "Tables turned against Chosen route," stated:

The manager of the wharf office of the South Manchuria Railway Co. became satisfied that, as matters stand, through goods booked from Japan to Mukden via the Chosen route reach their destination one or two days earlier than via the Dairen route. Hitherto three or four days intervened after arrival of cargoes by steamer at Dairen and before their dispatch by train to destinations in the interior. The enterprising manager has therefore instituted nocturnal cargo working service for the through cargoes so that they may be forwarded by rail on the day following the entry of the steamers. This will enable the consignees to receive their goods one or two days sooner than would be the case if booked via Chosen.

On March 5, 1914, the Osaka Shosen Kaisha also reduced steamer rates on cotton cloths and yarns as follows:

Articles.	Yen per bale.	
	Old rate.	New rate.
Grey cottons.....	0.70	0.60
Cotton sheeting.....	.80	.60
Cotton yarn, small (200 pounds).....	.80	.70
Cotton yarn, large (400 pounds).....	1.20	1.05

The above has taken effect on goods shipped to Dairen from Kobe and Osaka since March 1, 1914, and has been notified to the Cotton Importers' Union at Dairen.

ADVANTAGES OF TRADING THROUGH DAIREN.

The representation of the Dairen Business Men's Association is of interest as showing not only the attempt of the Japanese importers at Dairen to preserve the established trade route through Dairen, but also for their statement of the advantage now accruing to them in storing goods in warehouses at Dairen, where the stocks on hand can not be readily ascertained by the Chinese merchants in the interior and yet where they can be available for quick delivery. The Chinese always wish to keep their money in circulation, hence it is of great advantage in competing for their trade to have stocks that can be delivered in small lots as desired, but it has been the experience of those who have tried to carry stocks in the interior that the Chinese have always tried to bear the market by refusing to buy in such cases until the carrying charges on heavy stocks have forced the owners

to sell at a reduction. The Japanese have hitherto been able to avoid this by carrying small stocks at interior points and ordering goods up from the Dairen warehouses only as actually required. If they have to make Mukden or Changchun their accumulation center they will lose one of the main advantages they now possess over foreigners. As it is, the reduced freight rates in Chosen and the reduced customs duties at Antung will probably result in foreign goods from Shanghai being landed at Chemulpo and brought in via Antung, with a reduction of cost; a Japanese who is now importing American sheeting via this route is selling at Mukden 10 cents (small coin) per piece cheaper than can merchants who are receiving their goods via Newchwang.

JAPANESE IMPORTERS—TRADE METHODS.

The Japanese firms at Dairen importing cotton goods are as follows: Mitsui Bussan Kaisha, Nisshin Yoko, Eijun Yoko, Tsunodo Shoten, Okura & Co., Komei Yoko, T. Yuasa & Co., Kata Yoko, Sudzuki Yoko, and Saito Yoko.

Mitsui, Eijun, and Tsunodo are the oldest in point of establishment in the Manchurian trade. Nisshin Yoko is the China branch of the Japanese firm of Nippon Menkwa Kabushiki Kaisha—Japan Cotton Trading Co. (Ltd.). These firms (excepting only the Mitsui) have an association at Dairen called Menshiku Dogyo Rengokai—Cotton Goods Guild Association—and meet every Tuesday to talk over matters connected with the trade, but they publish no price lists or other information.

Mr. S. Nagahama, director of the firm of Eijun Yoko and chairman of the Business Men's Association of Dairen, states that a few American and English cottons are handled through Dairen, but that the great bulk of the goods are Japanese; also, that though there is a local association of Chinese merchants, they do little business direct with either Shanghai or Japan and buy chiefly from Japanese importers. He says that the Japanese import cottons from Japan on 30 days' sight and that Japanese banks charge $4\frac{1}{2}$ per cent interest. He states that at Newchwang the Chinese get somewhat longer credits, as they have a quarterly settling-day system called Kuo lü yin, but that it is becoming unpopular, and if it is done away with the Japanese at Dairen will be in a better position to compete in handling foreign as well as Japanese cottons. At Dairen everything is on the basis of the gold yen; at Newchwang the currency is very mixed and this aids speculation, but even there the notes of the Yokohama Specie Bank are gradually winning their way. The trade in cotton goods from Shanghai continues to be done through Newchwang, as the Chinese merchants there have long-established connections with Shanghai and give larger contracts; at Dairen, with short credit from the banks and less speculation, Mr. Nagahama says it is difficult to make any profit in handling the higher-priced goods from America. At times the Japanese importers handle American goods, but as a rule this is not profitable. Conditions in Manchuria are different from those at Tientsin and some other ports of China, where goods can be sold for cash; in Manchuria the people are largely farmers and the merchants have to wait on the crops for their payments. In selling to the wholesale merchants the Japanese importers, therefore, have to give time, but they are now trying to do away with one

element of uncertainty by combining to refuse to accept any money except the gold yen in the south and the gold ruble in the north.

PRINCIPAL GOODS IN DEMAND.

Mr. Nagahama also stated that the Manchurian demand is mainly for sheeting and nankeen, that these enjoy a year-round demand, while the sale of drills is intermittent, these goods being handled chiefly at the beginning of winter. He stated that the drill trade had failed to keep pace with the sheeting trade, as jeans, mainly English, are being largely substituted therefor, and that the Japanese had not been able to undersell the English on jeans to the extent that they were able to undersell Americans on sheeting and drill. The Japanese find a good market in Manchuria for nankeen when the Chinese output is short or when there is a specially good demand. The nankeen is mostly imported in the grey or half-bleached condition, and is sold retail in the dyed condition. Most of this is desired in some shade of blue, and while the Japanese and Chinese methods of hand dyeing are about the same, the Chinese can dye locally somewhat cheaper, hence the Japanese have had little success in importing these goods already dyed. In the smaller trade in black nankeens the Japanese have had more success, as they do these somewhat better than they are dyed in Manchuria, and can therefore compete on better terms.

Mr. Nagahama said that the "Nine Dragons" of the Kanegafuchi Boseki had been the Japanese sheeting sold most largely in Manchuria, but that last year the "Dragon C" chop of the Miye Boseki had been improved by the use of better cotton, and it now enjoys the best sale. The "Pair of Geese" chop of the Miye Boseki is the most largely sold Japanese drill, but in some centers preference is given to the closer-woven "Dragon Head" chop of the same mills. He stated that the difference in price between American and Japanese sheetings of the same nominal weight is usually 75 to 80 sen (say, 35 to 40 cents) per piece, sometimes amounting to as much as 1.30 yen (say, 65 cents) per piece, but he admitted that the Japanese goods are made of inferior cotton and sized much heavier. He said, however, that the Manchurian demand is for cheap goods, and that he could not see much future for American goods in Manchuria at the present relative prices; in fact, the Japanese expect the Shanghai mills, when they get their help better trained, to be their chief competitors.

PRICES OF JAPANESE SHEETINGS AND DRILLS.

Eijun Yoko had no American goods on hand, so could not quote prices, but gave the following as the wholesale prices in Dairen (before payment of duty, as this is a free-zone port) on February 14, 1914, on some of the leading Japanese chops:

Articles.	Yen per piece.	Dollars per piece.	Articles	Yen per piece.	Dollars per piece.
Sheetings:			Drills:		
Nine Dragons.....	4.90	2.440	Dragon Head.....	5.85	2.913
Three Sheep.....	4.90	2.440	Geese.....	5.20	2.590
Dragon C.....	4.875	2.428	Phoenix.....	5.20	2.590
Butterfly in Triangle.....	4.85	2.415	Lion.....	5.15	2.565
Two Dragons.....	4.85	2.415	Elephant.....	5.10	2.540

The "Three Sheep" chop is a private chop, owned by Eijun Yoko, which is pushing its sale especially at Mukden. It is made by the Kanegafuchi mills, and is exactly the same sheeting that is put out by those mills under their own brand of the "Nine Dragons." The "Lion" and "Elephant" drills above are not much sold in Manchuria, but all of the others are well known there. The "Elephant" drill is different from and inferior to the "Elephant in Star," quoted elsewhere. The 2.85-yard "Rooster in Circle" sheeting that finds a good sale at Tientsin and some other points in China is rarely seen in Manchuria.

COMPARATIVE PRICES OF JAPANESE AND AMERICAN GOODS.

The manager for Mitsui Bussan Kaisha at Dairen states that his firm occasionally handles some American goods, but that the difference in price is such that it does not pay and that it handles these goods only to oblige customers who want some of the better-made American goods laid down in their warehouse, together with the much larger amounts of Japanese goods handled as regular lines. He courteously promised to make up a statement (with samples) showing the present differences in cost per piece at Dairen of competing Japanese and American cloths. These he later forwarded under date of February 24, 1914, as follows:

Articles.	Mill and chop.	Description.	Price per piece c. i. f. Dairen.	
			Yen.	Dollars.
Grey sheeting:				
American.....	Pacolet, Buck's Head.....	36 ins. by 40 yds., 14 lbs.....	6.60	3.29
Japanese.....	Miye, XXX.....	do.....	5.45	2.71
American.....	Abbeville, Three Rabbits.....	36 ins. by 40 yds., 13½ lbs.....	6.15	3.06
Japanese.....	Kanegafuchi, Nine Dragons.....	do.....	4.90	2.44
Do.....	Miye, Dragon C.....	do.....	4.80	2.39
Grey drill:				
American.....	Pepperell, Dragon.....	30 ins. by 40 yds., 14 lbs.....	6.70	3.34
Japanese.....	Miye, Dragon Head.....	do.....	5.80	2.89
American.....	Piedmont, Parrots.....	30 ins. by 40 yds., 13½ lbs.....	6.00	2.99
Japanese.....	Miye, Geese.....	30 ins. by 40 yds., 13 lbs.....	5.20	2.59
Grey shirting:				
American.....	Victoria Mills, Man and Gun.....	36 ins. by 40 yds., 12½ lbs.....	7.20	3.59
Japanese.....	Miye, Soldier and Spear.....	36 ins. by 40 yds., 12½ lbs.....	6.20	3.09
Grey jeans:				
English.....	Haworth, Beaver.....	29½ ins. by 30 yds., 8½ lbs.....	4.80	2.39
Japanese.....	Kanegafuchi, Fukurokuju.....	do.....	4.40	2.19
White shirting:				
English.....	Reiss Bros., Round Dragon.....	36 ins. by 41½ yds., 12 lbs.....	8.00	3.98
Japanese.....	Tokyo, Kakushigi.....	36 ins. by 40 yds., 11½ lbs.....	7.00	3.49

The prices quoted are the prices landed in Dairen before duty is paid.

The Miye Mills XXX is the best sheeting sold from Japan (containing 1,770 ends in the warp as compared with 1,644 ends in most of its other sheetings), but the amount sold is small as compared with its cheaper varieties. The head end carries a chop that seemingly represents the sun, as it has a smiling face in a circle and rays projecting through five other concentric circles; underneath this is: "XXX. Superior Sheeting. Miye Cotton Spinning & Weaving Mills. 40 yds."

"Fukurokuju" is the Japanese name of the chop used by the Kanegafuchi on grey jeans. It shows a deer with a twisted scroll in its mouth, while overhead is a bat; sometimes called the "Deer and Bat" chop.

"Kakushigi" is the Japanese name of a chop used by the Tokyo on white shirting. It shows a man in a chair and three boys before him; sometimes called "Saint and Boys" chop.

From these prices, as given by Mitsui's agent, it appears that the Japanese have the greatest advantage in grey sheeting and shirting and grey drills, while their advantage is less on grey jeans and on white shirting (considering the difference in length and weight of the white shirting samples shown). In the first two articles they are imitating and trying to displace American goods, and in the latter English goods.

GOODS HANDLED BY MITSUI BUSSAN KAISHA.

According to Mitsui's agent at Dairen the sheeting chop with which it opened the Japanese selling campaign in Manchuria after the Russian War was the "Two Crabs," which was a private chop owned by Mitsui and not by the mills. In 1906 the five largest weave mills in Japan formed a "Cotton Cloth Export Association," with Mitsui Bussan Kaisha as trustee of the association, to ship their output under one chop to Manchuria, the mills agreeing to make the cloth as uniform as possible. Two mills withdrew after the first year, leaving only the Miye, Osaka, and Temma Orimono. This selling association broke up in 1912 and the mills now sell their own chops through various dealers. Mitsui still sells some of the "Two Crabs" chop made for it by the Osaka Boseki, but this is a 14-pound sheeting (2.85 yards to the pound), and as the demand is mostly for lighter and hence cheaper makes the sale of this chop is now very small.

Most of the Japanese jeans sold in Manchuria are made by the Temma Orimono mills, their 30-yard, 9-pound "Elephants and Pagoda" having the best sale, but there are others and one of the best woven is made by the Kanegafuchi mills and sold by Mitsui under its private chop of the "Fukurokuju," or "Deer and Bat" brand. The Japanese are gradually increasing their output of jeans, but find strong competition from the English, who control the bulk of the trade. Mitsui's agent states that it is also bringing in some white shirting chops from Japan, but that the sales are yet very small as compared with the sale of English white shirting.

IMPORTS AT DAIREN.

The following table shows the source of the cotton yarn and cloth imported into Dairen in 1911, 1912, and 1913, according to records of the Dairen Wharf office, in tons of 2,000 pounds:

Shipping ports.	Yarn.			Cloth.		
	1911	1912	1913	1911	1912	1913
Tokyo and Yokohama.....	2	117	34	313	314	76
Osaka.....	1,390	1,844	2,287	6,215	8,322	9,567
Kobe.....	1,277	3,242	3,833	2,644	3,785	3,157
Moji and Shimonoseki.....	451	479	473	753	1,157	1,332
Nagoya.....	38	266	1,287	1,405	2,635	3,118
Yokkaichi.....				899	1,170	827
Nagasaki.....					1	19
Handa.....						24
Rokurin.....				305	115	
Ushina.....	11	3	6	47	34	18
Chinnampo.....				4		
Chemulpo.....						2
Fusan.....					1	1
Antung.....						9
Pitzwo.....						1
Newchwang.....				3		
Tientsin.....					352	36
Lungkao.....					1	1
Chefoo.....	2	25	83	1	67	32
Tsingtau.....			24		13	4
Shanghai.....	885	676	1,291	1,407	3,339	3,179
Hongkong.....	15	65				
Hamburg.....	29	71	18	21	23	41
Marseille.....			1			
Antwerp.....	35	57	108	2	3	
Glasgow.....	2	2				11
Liverpool.....	8	5	12	2		313
London.....	4		1	17	22	8
Middlesboro.....					4	
United Kingdom (ports not specified).....		6				
New York.....		4		9		
Total.....	4,149	6,862	9,458	14,017	21,358	21,776

The great bulk of the cotton yarn and cotton goods entered at Dairen is from Japan, chiefly the ports of Osaka and Kobe, followed by Nagoya and Moji and Shimonoseki. Of other than Japanese goods few enter from any other port than Shanghai, though most of the goods credited to that port are, of course, English and American.

MUKDEN.

Mukden is the Manchu name of the city called by the Chinese Shengking and by the Japanese (as shown on their railway schedules) Fengtien. It was the capital of the early Manchu emperors from 1625 until they removed to Peking and ascended the Dragon Throne in 1644. It has since remained the capital of Manchuria, and is also the capital of the Province of Shengking (Fengtien).

Mukden stands in a large plain and but 3 miles distant from the right bank of the Hun River, a tributary of the Liao. The city proper is about a mile in diameter, being more in the shape of a nut than a circle, and is inclosed by great brick walls about 30 feet high. There are eight gates, of which the main ones are protected by barbican as well as towers, while isolated battle towers are located

within the town at strategic points on the avenues leading from these gates. The palace is located in the center of the town. The streets are mostly narrow winding lanes, with somewhat wider avenues to the main gates. The town is held by a large force of Chinese soldiers, and order is maintained by a body of police armed with rifles. The city gates are closed at 10 o'clock (Chinese time) every night, and no one is admitted until the morning.

Outside the city walls proper is a large suburb surrounded by mud walls. All around the town are thousands of the unmarked dirt mound graves of the Manchus, and near by are also the mausoleums of the first Manchu emperors, the latter being known as the "Imperial Northern Tombs." As the city is surrounded by tombs, the Chinese authorities would not allow the Russians when building their railway to place the station within 10 miles of the town, but advantage was taken of the breaking out of the war with Japan to move the road farther in. The station of the South Manchuria Railway is now about a mile from the main gate of the walled city and is a large brick building with a central dome. It is two stories high and contains one of the Yamato hotels that have been established by this railway along modern lines. The station and hotel lie within the Japanese railway concession, and Japanese soldiers, acting as railway guards, patrol the platform day and night. Mukden is on the main line from Dairen to Changchun and also the junction for the lines from both Chosen and Peking, so that it is the crossroads of Manchuria and the most important strategical center. The Japanese have macadamized the streets that they have laid out in the concession and have built one and two story brick buildings on the plaza facing the hotel and on the streets radiating from this center. One of these streets diverges toward the main gate of the city and is traversed by horse cars.

Mukden was opened to foreign commerce June 1, 1906, by virtue of the stipulations of the Chinese-American treaty of 1903. No accurate census has ever been taken, and its population is variously stated as between 100,000 and 150,000.

PRINCIPAL IMPORTERS—BANKS.

At Mukden there is an agency of Mitsui Bussan Kaisha and also agencies of other Japanese firms handling piece goods, such as Nisshin Yoko, Yuasa & Co., Eijun Yoko, Okura & Co., Sudzuki & Co., and others. Foreign firms located here that handle piece goods more or less are Arnold Karberg & Co., Brand Bros., Hugh Gunn & Co. (American), Carl Wolter & Co., and Shaw Bros.

The leading Chinese wholesalers handling piece goods are as follows, in the order of their approximate relative importance: Hung Shuen Sheng; Hsing Shuen Lee; Heng Hsing Yuan; Heng Hsing Chang; Yu Sheng Chang; Tung Tseng Lee; Shuang Ho Te; I Fung Chang; Tien Ho Lee; Hsing Shuen I; Tien Ho Tung; Heng Shang Yuan; Fu Feng Tung; Shwang Yu Heng.

Mukden contains branches of the Yokohama Specie Bank, the Bank of China, and the Bank of Communications (Chinese), as well as local banking firms.

The bulk of the Mukden trade is local, but goods are distributed from this town eastward for some 200 miles or more, and a small amount is also sent 40 miles westward to Hsinmintun.

COMPETITORS OF AMERICAN SHEETING.

Inside the city proper some of the older firms still handle fair amounts of American sheeting, and the merchant class usually prefer American cloth for their own use, but the bulk of the sheeting now sold is Japanese, and in the suburbs, where the demand seems to be almost entirely for cheap goods, practically no American cloth is to be found in the stores. The Japanese are very strongly intrenched in the trade at Mukden, more so than in almost any other town in Manchuria, and bring goods in through both Dairen and Antung. The largest Chinese wholesaler estimated that at least 80 per cent of the local sheeting trade is in Japanese chops, and he says that the local drill trade is almost entirely Japanese. Some "Standing Horse," "Two Rabbits," and other American drills are sold here, but only in small quantities.

The main American sheetings sold at Mukden are the "Horse and Dog" and "Three Rabbits" brands of 3-yard goods; all other chops are sold in much smaller amounts. The American "Three Birds on Drum" sheeting had a good sale for lining, but it has decreased in popularity. There are several cheaper Japanese imitations, but the merchants state that its chief competitor has been the closer-woven "Elephant God," called by the Chinese the "Fu Shang," or "God of Prosperity," an English grey shirting. This latter is slightly higher in price, 6.80 small coin dollars as against 6.40 small coin dollars, but is 72 by 76 construction, as against 48 by 48, while the width of both is the same, 36 inches, and the weight the same. The Chinese gave the weight of both "Three Birds on Drum" sheeting and "Elephant God" shirting as 7 catties, which, as the local Mukden catty weighs only $1.22\frac{1}{2}$ pounds, is equivalent to $8\frac{1}{2}$ pounds per 40-yard piece, or 4.70 yards to the pound. The "Two Deer A" grey shirting as made by the Osaka Boseki, 36 inches, 68 by 68 construction, has taken the place of the American "Man, Horse, and Spear" grey shirting formerly sold by Mustard & Co. Many brands of American sheetings and drills formerly well known here have disappeared and have been replaced by Japanese goods. Here, as elsewhere, the Japanese imitate foreign goods that have a good sale and attempt to bring in a cheaper substitute that resembles as closely as practicable the original article.

JAPANESE SHEETING AND DRILL.

There are numerous chops of Japanese sheeting on the Mukden market, the most popular seeming to be the "Dragon C," the "Three Sheep," and the "Nine Dragons." The two last named are made by the Kanegafuchi mills and are the same cloth, but the "Three Sheep" is the private chop of Eijun Yoko and has been exploited by that firm until it seems to enjoy a larger sale than the "Nine Dragons" chop of the mill. By allowing their cloth to be sold under private chops in competition with the regular mill chops the Japanese manufacturers aid their sales by reason of the greater efforts a dealer will make in selling his own chop, and the chance he has of stimulating trade by advertising its superior qualities without so much direct price-cutting competition as he would have if others were selling under the same brand.

The Japanese drill sold most largely at Mukden is the "Dragon Head," which is followed by the "Geese" and "Phoenix" brands. The "Dragon Head" drill has a 72 by 48 construction, and hence is a closer-woven and higher-priced drill than other chops like the "Geese," etc., which are mostly 60 by 40 construction; but its larger sale at Mukden is due to the fact that the Japanese have succeeded in having it adopted for the outer coating of the padded uniforms worn by the local soldiers and police. At each military center in China there is a military-uniform factory and a supply store for such factory; some supply-store owners seem to find it more profitable to their interests to buy one cloth and some another. For instance, at Kirin the "Geese" drill is used for the troops. Instead of woolen uniforms are used those made of ordinary cotton drill (dyed the light grey or other color desired), and in the colder sections like Manchuria these are in winter padded with cotton between the outer drill and an inner lining of cotton sheeting. In Manchuria all of the large orders for drill and sheeting required by the soldiers and police are supplied by the Japanese, and this is a considerable item in their total sales.

TRADE METHODS.

The Chinese merchants state that Mitsui sells in gold yen only and will not accept any local currency such as the Chinese "small coin" silver in payment; occasionally when it suits the firm's purpose it may take a payment in silver yen. Some of the merchants buy outright from Mitsui and others sell for Mitsui on the usual 2 per cent commission. Mitsui usually gives 30 to 45 days' time, occasionally up to two months, but this is usually worked on a part-payment system that amounts to a permanent credit of a certain fixed amount to each firm. Brand Bros. and some other foreign firms accept payment in silver yen and now give as long time as Mitsui or longer. One of the foreign firms that has tried to stick to cash or else very short credits claims that the credit now usually demanded is the fault of a few foreign firms who have been led into extending time by reason of the keen competition, and that formerly, when all piece goods came from Shanghai, it was a cash trade with Shanghai and only 14 days' credit given locally.

The Chinese merchants estimate that in 1913 Mitsui alone sold at Mukden some 3,000,000 yen worth of piece goods, but they assert that at one time the firm had so much owing on its books and the merchants to whom it had extended credit were so slow in settling up that the firm complained to the chamber of commerce. The latter, however, replied that the matter was none of its business and that if a firm gave excessive credit it had only itself to blame.

PRICES.

On grey sheeting and drill the retail prices at Mukden do not seem to be more than 10 per cent above the wholesale, but on goods in which the turnover is smaller the amount added for profit and expenses is usually larger. Merchants who sell the dyed goods seem to make a larger percentage than when they sell undyed goods, as they add the nominal quotations for dyeing and then obtain a good

rebate from the dyer for quantity. The business and consumption tax paid by merchants at Mukden on all goods handled is supposed to be 2.2 per cent. They state that this is paid on their sales of all goods brought in from Newchwang, but does not have to be paid by them on goods bought locally from Mitsui.

One of the largest Chinese wholesale firms at Mukden states that competition is so keen on staple sheetings and drills that it is able to add but 5 sen a piece on the purchase price in selling to retailers. For instance, it stated that it was buying locally from Mitsui (it receives no commission and buys outright, though with 30 days' time) Japanese "Dragon C" sheeting at 5.10 gold yen and was selling to local retailers at 6.85 small coin dollars. The exchange on that day was 1.332 small coin dollars to the gold yen, so it was buying at 5.10 yen and selling at the equivalent of 5.143 gold yen, which gave a margin of only 4.3 sen, or 2.1 cents United States currency, per piece of 40 yards. For the Japanese "Butterfly in Triangle" and "Two Dragons" sheeting, however, it paid only 5.05 gold yen a piece and sold at 6.85 small coin dollars to the retailers. Hence it seemed to make a larger profit on the chops that are not so much in demand and to shave prices very close on those in which there is strong competition.

PRICE OF GOODS BOUGHT THROUGH ANTUNG.

One Chinese wholesaler who is handling American sheeting complained that Heng Shang Yuan was selling the same sheeting on the market at 10 cents small coin a piece cheaper than the price at which the firm could possibly make any profit. On inquiry at this firm's office I found this was true as to the three chops of "Horse and Dog," "Three Rabbits," and "Three Birds on Drum" (the only ones they were handling and those most in demand at Mukden). Examination showed that these were not imitations, but the regular goods, and the firm explained that it was purchasing through a Japanese associated with the firm, who brought the goods in from Shanghai via Chemulpo and Antung and who, with the benefit of the lower duty at Antung and cheaper freights, was able to sell these cloths lower than they could be bought at either Newchwang or Dairen.

To show the comparative freight and other charges from Osaka to Mukden via Dairen and via Antung, the Mukden agency of Mitsui Bussan Kaisha in February, 1914, furnished the following statement to the American consulate at Mukden:

Items.	Sheeting.	Shirting.	Drill.	Jean.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Osaka to Mukden via Dairen:				
Ocean freight from Osaka to Dairen, at 0.12 yen per cubic foot...	0.90	1.68	0.90	0.90
Import charges at Dairen, 1 sen per 100 catties (133½ pounds)....	.03	.04	.03	.03
Import duty.....	3.70	10.35	3.85	4.15
Railway freight from Dairen to Mukden.....	1.10	1.95	1.13	1.20
Total charges per bale.....	5.73	14.02	5.91	6.98
Total charges per piece (40 yards).....	.29	.28	.295	.21
Osaka to Mukden via Antung:				
Railway freight from Osaka to Mukden via Antung (special rate of 0.97 yen per 100 catties).....	2.134	3.78	2.18	2.33
Import duty.....	2.464	6.89	2.56	2.76
Total charges per bale.....	4.598	10.67	4.74	5.09
Total charges per piece (40 yards).....	.23	.214	.237	.165

With the keen competition and the close prices at which such staple goods have to be sold, a difference of 2 to 3 cents a piece is sufficient to give the "overland" route via Antung the preference, and though the bulk of the Japanese cloth still comes in via Dairen an increasing amount is being routed via Antung. Japanese at Dairen are working for the continuation of Dairen routings and besides attempting to get a lower freight rate from Dairen to the interior, as well as lower ocean rates from Japan, they have also demanded that goods from the Kwantung Leased Territory be given the same preferential customs duty as is now given at Antung, on the ground that both enter by rail from continuous territory; there is not much chance of their obtaining any lowering of the duty, however much they may be able to offset the other advantages of the Antung route.

JEANS, WHITE SHIRTING, ETC.

The jeans most largely sold at Mukden are the English "Beaver," "Stag's Head," and "Three Stags' Heads," though the Japanese are bringing in increasing amounts of "Elephants and Pagoda," "Star and Crescent," and "Deer and Bat" jeans and seem to be having more success with them at Mukden than at most other centers. The American "Beaver" jean that formerly had the market here is now almost unknown, as the price is too high, though its good quality is admitted by all.

The white shirting trade at Mukden is handled in good measure by foreign firms (most of these are English goods, though the Japanese are now offering stronger competition), but they state it is a more risky and fluctuating trade than the handling of staple grey goods. There is some sale of fancies at Mukden, but the trade is not large. There is a permanent demand for Venetians; poplins sell well; and cotton sateen prints are to some extent taking the place of the figured silks formerly worn by the merchants. The Russian prints sell well, the popular price being 10 cents small coin per Chinese big foot; the demand for such narrow shirting prints in recent years has largely increased, otherwise there is no great change in the general demand, as in Manchuria the style of dress has not changed as it has in some of the coast towns of the south.

COMPARATIVE PRICES.

On February 26, 1914, the gold yen was quoted at Mukden as equivalent to 1.332 small coin dollars, which made the exchange value of the small coin dollar 37.388 cents United States currency. The following are the prices at which some of the main chops were being sold by the Chinese wholesalers on that date, the prices being quoted in small coin dollars per piece of 40 yards for sheeting, shirting, and drills and per piece of 30 yards for jean. I have added a column showing the equivalent rates per piece in American currency at the exchange values ruling February 26, 1914.

Articles.	Whole-sale prices in small coin dollars.	Equivalent price in U. S. currency.	Articles.	Whole-sale prices in small coin dollars.	Equivalent price in U. S. currency.
American sheeting:			Japanese sheeting—Contd.		
Horse and Dog	\$8.80	\$3.290	Man and Elephant	\$6.85	\$2.561
Three Rabbits	8.75	3.271	Chinese Citrons	7.30	2.729
Three Birds on Drum	6.40	2.393	Japanese drill:		
Buck's Head	9.40	3.514	Dragon Head	8.30	3.103
Dog's Head in Circle	9.30	3.477	Geese	7.60	2.841
Eagle	8.75	3.271	Phoenix	7.00	2.617
American drill:			Litaibai ^a	7.90	2.954
Standing Horse	8.70	3.253	Grey shirting:		
Two Rabbits	9.50	3.552	Two Deer A (Japanese) ..	8.70	3.253
Flying Horse	9.50	3.552	Fu Shang (English) ^b	6.80	2.542
Man, Horse, and Bow	9.50	3.552	English jean:		
Dragon	9.70	3.627	Squirrel (beaver)	6.70	2.505
Japanese sheeting:			Stag's Head	6.70	2.505
Dragon C	6.85	2.561	Three Stags' Heads	7.30	2.729
Three Sheep	7.10	2.655	Japanese jean:		
Nine Dragons	7.00	2.617	Elephants and Pagoda ...	7.00	2.617
Two Dragons	6.85	2.561	Star and Crescent	7.00	2.617
Butterfly in Triangle	6.85	2.561			

^a "Litaibai" is the name of the Chinese saint shown on this chop, who is called by the Japanese "Ritai-haku."

^b This chop shows an elephant-headed god and is called by the Chinese "Fu Shang," or "God of Prosperity."

The Chinese wholesalers in giving the above prices at which they sold said that they were buying locally from the Japanese agents the "Dragon C" sheeting at 5.10 gold yen a piece, "Three Sheep" at 5.20, "Nine Dragons" at 5.15, "Chinese Citrons" at 5.40, and "Butterfly in Triangle," "Two Dragons," and "Man and Elephant" at 5.05 gold yen a piece, also "Dragon Head" drill at 6.15 and "Geese" drill at 5.45 gold yen apiece.

They were buying from the Japanese agents of the Kanegafuchi mills "Blue Fish" yarn No. 16, at 143 yen (\$71.21) per bale of 400 pounds and the "Rising Sun" 32/3 yarn at 161 yen (\$80.18) per bale of 400 pounds. They were also buying through the Japanese the Indian "Tea Carrier" No. 10 yarn at 136 yen (\$67.73) per bale of 400 pounds.

CHANGCHUN.

Changchun ("Long Spring") seems to be the correct name of the city that is shown on most maps as Kwanchengtze ("Large walled town") and popularly so called. The northern terminus of the South Manchuria Railway (called Changchun) and the southern terminus of the Chinese Eastern Railway (called Kwanchengtze) are about 1½ miles apart and each about the same distance from the city proper. There is a branch line from Kwanchengtze so that the Russian and the Japanese trains draw up on opposite sides of the station at Changchun and all passengers making the through trip to or from Europe have to change cars at this station, as the Russian line has a 5-foot and the Japanese a 4-foot 8½-inch gauge. The station of the Chinese railway to Kirin is located a short distance from the Japanese station, hence Changchun is the meeting point of railways managed by three nations, a fact that has greatly increased its importance. From Changchun to Dairen wharves is 437½ miles, to Mukden 190 miles, to Newchwang 300 miles, to Kirin 80 miles, and to Harbin 152 miles. Changchun is undoubtedly the natural distributing center for the whole of central

Manchuria. It is a busy city whose trade is growing steadily, and as it is not only the best interior distributing point but the center for the accumulation and export of Manchuria's staple crop of beans, many foreign firms are establishing branch offices to handle both export and import trade.

The city was opened to foreign trade on January 14, 1907, by virtue of a proviso of the Chino-Japanese agreement of December, 1905. The population is uncertain but is estimated to be over 100,000. The only consulates at Changchun are the Russian and the Japanese.

BANKS—FOREIGN FIRMS—DIVISION OF TRADE.

At Changchun, in addition to the Chinese banks, there are branches of the Russo-Asiatic Bank and the Yokohama Specie Bank, and these handle the foreign trade. The foreign firms handling piece goods more or less are Jardine Matheson & Co., Colman & Co., Brand Bros., and Zindels & Co. (of Moscow). Mitsui has one of its main agencies at this point and the other Japanese dealers also have connections here.

The Chinese merchants estimate that in 1913 Mitsui sold some 5,000,000 yen of cotton goods at this point. Only a portion is used in the town itself, as Changchun is the distributing center for a large territory, including Harbin to the north and Kirin to the east. They state that if last year (1913) there had been an agency here handling American cloth it could have done a very large business during the attempted boycott of Japanese goods.

At present about two-thirds of the sheeting and drill sold at this point are estimated to be Japanese and about one-third American and Chinese. Of the cotton goods shipped north from this point (with the exception of some prints and velvet from Russia, north Manchuria is mainly supplied from Changchun) about half is Japanese, about a third American, and the remainder Chinese and British. Of the goods shipped to Kirin from Changchun probably three-fourths are Japanese.

LEADING BRANDS OF SHEETING.

The chief sheetings sold at Changchun seem to be the "Dragon C," "Three Chickens," "Horse and Dog," "Three Rabbits," "Nine Dragons," "Three Birds on Drum," and "Man and Elephant." The leading drills seem to be the "Dragon Head," "Geese," "Elephant in Star," "Standing Horse," and "Two Rabbits," and the leading jeans seem to be the "English Squirrel" (beaver) and the Japanese "Elephants and Pagoda."

The Chinese wholesalers state that the demand is mainly for cheap goods, and that they can sell 100 bales of Japanese goods where they can sell 60 American. Several inquired if there was no way to cut out the Shanghai expenses and get in American goods at more competitive prices, asserting that the American goods are so much better in quality and so much preferred by the merchants in general that they could sell them even if the prices were somewhat higher than those offered by the Japanese. At the present prices they have to substitute Japanese for the higher-priced American goods in order to hold their trade. They maintain that unless the Americans arrange some

way in which to supply goods more cheaply American trade will continue to decline, and that in addition to the price being reduced there ought to be some way by which American goods could be delivered as required. The Japanese carry stocks at Dairen and can deliver quickly in any size lots desired, and the Americans should meet this competition by having an agent in the country carrying stocks for prompt delivery. It is so much more convenient to order locally from the Japanese agents that many firms here which formerly maintained agents with firms at Newchwang and Shanghai have withdrawn them as a useless expense.

Goods that come from Shanghai are usually shipped via Newchwang during the summer and fall; only a few come via Dairen, as that makes them more expensive, and they are usually shipped that way only when required during the winter and are not available at Newchwang.

The local trade starts about October 1 and lasts until about the middle or end of May. During the four months from May to October the trade is almost absolutely dead, as the farmers are then busy at home with their crops and the roads are so bad as to be almost impassable.

COMPARATIVE PRICES.

On February 21, 1914, the local exchange rates gave 10.300 tiaos as equal to 1 ruble, 7.640 tiaos as equal to 1 dollar Kirin Province small coins, and 12.990 tiaos as equal to 1 ounce Sycee silver. The gold yen was quoted at 10.150 tiaos, but the ruble is the standard gold currency on which comparative values have to be based at Changchun, Kirin, and points north, as is the gold yen at Manchurian points to the south. The Chinese wholesalers were buying in gold rubles and the following are their buying prices on February 21, 1914, at Changchun for some of the main chops sold here:

Articles.	Wholesale buying prices.		Articles.	Wholesale buying prices.	
	Russian currency.	United States currency.		Russian currency.	United States currency.
American sheeting:	<i>Rubles.</i>		Japanese sheeting—Contd.	<i>Rubles.</i>	
Horse and Dog.....	6.45	\$3.322	Two Dragons.....	5.04	\$2.595
Three Rabbits.....	6.40	3.296	Man and Elephant.....	4.95	2.549
Three Birds on Drum....	4.75	2.446	Chinese Citrons.....	5.15	2.652
Buck's Head.....	7.10	3.656	Bird (Tokyo mill).....	4.90	2.524
Dog's Head in Circle.....	7.00	3.605	Japanese drill:		
Man, Horse, and Bow....	6.99	3.554	Dragon Head.....	6.00	3.090
Cow and Straw.....	5.19	2.627	Geese.....	5.60	2.884
Fox Head.....	6.20	3.193	Phoenix.....	5.75	2.961
Running Wolf.....	6.10	3.142	Elephant in Star.....	6.40	3.296
Dog and Deer.....	6.20	3.193	English jean:		
Eagle.....	6.20	3.193	Squirrel (beaver).....	4.50	2.318
American drill:			Three Stags' Heads.....	4.70	2.420
Standing Horse.....	6.10	3.142	Japanese jean:		
Flying Horse.....	6.80	3.502	Elephants and Pagoda ...	5.20	2.678
Two Rabbits.....	6.80	3.502	Star and Crescent.....	5.15	2.652
Man, Horse, and Bow....	6.60	3.399	Shanghai sheeting:		
Dragon.....	7.00	3.605	Cow.....	6.15	3.167
Japanese sheeting:			Rain's Head.....	5.80	2.987
Dragon C.....	5.03	2.690	Horse in Circle.....	5.40	2.781
Three Chickens (roosters).	5.06	2.606	Griffin.....	4.75	2.446
Nine Dragons.....	5.05	2.600			

TRADE IN CHINESE-MADE GOODS.

Shanghai sheetings are more in evidence at Changchun than at any other point in Manchuria. They are chiefly the heavy makes, and as the demand tends toward lighter weights the sales are comparatively very small, but on these qualities they tend to displace the Japanese as well as the American. Those most largely sold seem to be the "Cow" chop, 36 inches wide, 46 by 46 construction, and weighing 15 pounds per 40-yard piece; the 14½-pound "Ram's head"; the 13½-pound "Saddled Horse in Circle"; and the 10-pound "Flying Dragon" or "Griffin." These are branded as "Jessfield Mills Standard Sheeting" and are made by the Kung Yik Cotton Spinning & Weaving Co. (Ltd.), of Shanghai. Jardine, Matheson & Co., a firm of English merchants, are the general managers of this cotton mill, and it is through their Newchwang and Changchun branches that this cloth is put on the Manchurian market. The Kung Yik Co., at Shanghai, has an authorized capital of 1,000,000 taels, of which 536,500 taels is paid up, and operates 25,576 spindles and 300 looms. This company was incorporated in 1910 under British control, and in 1911 paid a 12 per cent dividend and in 1912, 15 per cent.

No Shanghai drills were in evidence, and in jeans but one chop, the "Abacus" brand, of the Ewo mills of Shanghai. This jean had a very rough feel and was 29¾ inches wide, having 2,772 ends total in warp, counting about 93 by 50 ends per inch, and came in lengths of 40 yards.

Nankeen is largely sold at Changchun and makes up from one-fourth to one-third of the total cloth sales. There is keen competition between the Chinese and the Japanese nankeen, the former being pure-sized grey goods and the latter chiefly half-bleached cloth, most of which is starched. Both are made entirely on the hand loom. The merchants state that Chinese nankeen will stand a year's wear, while Japanese nankeen will not last over eight months. The Japanese cloth, however, looks better, as most of it is half bleached, besides being better put up in burlap-covered bales containing only one make to the bale. The Chinese nankeen comes packed in circular bales with a hollow core. It is covered with nankeen and tied with ropes, and each bale contains several varieties, with a total of some 40 pieces of 38 Chinese big feet each. A small amount of nankeen, also a trifle of sheeting, is made on hand looms in Changchun and its neighborhood, but the total output is estimated at not more than 10,000 pieces annually. This hand-loom trade requires mostly 10s and 16s cotton yarns, the former being usually from India and the latter from Japan. Japan supplies the higher counts, required in smaller amounts, the usual numbers of these being 20/1, 20/2, 32/2, 32/3, and 42/2.

WHITE SHIRTING, T CLOTH, ETC.

The white shirting sold at Changchun is mostly English, though the Japanese are beginning to offer stronger competition. The goods most in demand are medium-starched finishes of 35/36-inch widths, weighing 8¼ to 9 pounds per piece of 40 to 42 yards; these are now quoted the foreign firms from Manchester at 11s. to 12s. per piece c. i. f. Dairen.

The sale of T cloths, Turkey-red shirtings, and lastings is very small at this point, but there is a good business in poplins, 30 inches wide, 30 yards to a piece, 30 pieces to a case, and a steady trade in Venetians. English velvets come 22 inches wide in lengths of 30 and 35 yards, and are now being sold by the English importer to the Chinese wholesaler at 45 to 55 kopecks a yard. Russian velvets are mostly 18 inches wide and offer strong competition to the English.

RUSSIAN TRADE IN SHIRTING PRINTS.

On ordinary shirting prints this market is now controlled by the Russians, who have practically driven English prints off the market, and who have worked up a larger trade in this article than was ever attained before. The Russians have not manufactured specially for this market, but they have been successful in creating a demand for prints which they are selling in Russia and elsewhere and which differ in design and appearance from the prints formerly in demand in Manchuria. They inaugurated a strong selling campaign here and elsewhere in Manchuria by giving away samples to children and by advertising extensively, using gorgeously lithographed posters showing Chinese women and children wearing prints and examining others in a store with shelves crowded with all colors of printed goods. These posters were distributed to banks, shops, and customers and were pasted up at street corners. The Russians opened a wholesale store handling only prints; they offered favorable terms, up to nine months, to Chinese handling their goods, and they concentrated on this one article. At Changchun there are now several shops that handle nothing but Russian prints, and the same is true of other towns. The Russian prints are numbered from 1 to 8 and most of them are 24/25 inches wide; the usual construction is about 88 by 68, and they are mostly 7 to 8 yard goods. The Chinese were retailing these prints at 10 cents Kirin Province small coin per small Chinese foot. On February 21, 1914, 1 ruble equaled 10.300 tiao and 7.640 tiao equaled 1 dollar Kirin small coin; so that, the ruble being equal to 51.5 cents United States currency, the Kirin Province small coin dollar was worth 38.2 cents United States currency. A Chinese small foot is equal to 14.4 inches. These prints were, therefore, retailing at 3.82 cents United States currency per 14.4 inches, or, say, 9.55 cents per yard. The designs on these Russian shirting prints are much nearer American than English, and are partly small-figured leaves, flowers, etc., in blue, red, etc., on a white ground, and partly all-over prints in blues, pinks, blacks, etc. At the prices given there would seem to be a chance of American competition, except for the fact that the Russians give long credits and sell in as small lots as desired, down to one bolt, from large stocks kept on hand in each town. In addition to the ordinary shirting prints, the Russians supply smaller amounts of printed sateens, cretonnes, etc. Most of their printed goods of all kinds are 24/25 inches wide, with some 27/28-inch and a few 30-inch.

IMPORTER'S VIEWS OF AMERICAN TRADE.

An English importer at Changchun, who now has a good trade in English white shirting, jeans, Venetians, poplins, and cotton velvets, states that he can not get suitable coarse-yarn sheeting and drill from

England to compete with the Japanese at the right price. He is anxious to make connections direct with American exporters and mills and to act as their agent to develop this trade. With his established connections he is sure this could be made a mutually profitable trade, if the Americans will do as his English connections are now doing and ship direct to Dairen without the goods incurring intermediate handling expenses at Shanghai. Under date of April 17, 1914, he writes:

Referring to our interview of February 21: The result of my experience in this territory, so essentially different from China proper, is the opinion that the American piece goods trade in grey goods requires to be handled somewhat as follows:

Manufacturers of well-known chops would be well advised to cooperate and sell their own products under some such name and style as "The American Manufacturers' Association" through an appointed agent familiar with the ground and personally acceptable to the Chinese dealers.

With Changchun, the natural distributing center for the whole of Manchuria, as a base, the agent should appoint native distributors at each important mart, visit them regularly, ascertain the percentage of opposition Japanese goods sold, provide the association with such information as would enable them to manufacture to compete with it and keep them au fait with all details of business done in the territory.

Goods to be sold for gold currency only, rubles at and north of Changchun, gold yen to the south. It would pay to sell at a slightly cheaper rate in these currencies and so avoid the otherwise certain gamble on silver exchange.

Against the quick delivery obtainable from Japan on forward contracts, it is advisable to hold large stocks, practically all business being done in spot cargo. For the ordinary middleman located in Manchuria this procedure entails too large a capital outlay, hence the recommendation that the goods be sold by the manufacturers themselves through their agent, who would be able to estimate the demand and supply from stock. Excess stocks would lose nothing in depreciation, interest alone having to be allowed for.

All goods to be shipped to Dairen via Suez. With an agent devoting the whole of his energies to the furtherance of this business in all its details, I see no reason why it should not only be successful, but consider that, having regard to the elimination of middlemen's profits and the possibility of spot cargo in reasonable quantities, the business in American gray goods should be able to regain a great portion of its lost ground.

This merchant (name on file with the Bureau of Foreign and Domestic Commerce) proposes, in other words, that he be appointed agent for a group of American mills making some dozen chops popular on this market, that goods be shipped to him on consignment under suitable guaranty, that he be paid a small fixed salary and a sliding scale of commission according to the quantity sold; that the amounts of each chop to be shipped be based on his reports as to their popularity; and that the mills be prepared to ship chops made cheaper by varying the construction and sizing to compete with the Japanese goods on their own ground, as well as the established chops whose reputation it is essential to maintain. In his established trade with Manchester he has been enabled to cut out Shanghai dealers and have the goods shipped to him c. i. f. Dairen, doing a large indent trade in this manner, and his scheme is based on the American manufacturers being willing to do the same.

KIRIN.

The city of Kirin, 80 miles due east of Changchun, is the capital of the Province of Kirin. It is one of the wealthiest cities in Manchuria, if not the wealthiest, for besides a large local trade it is the favorite place of retirement for officials and merchants of the Three

Eastern Provinces, in this respect being much on a par with Hangchow and Soochow in the South.

Kirin was opened to foreign commerce on January 14, 1907. The population of the city has never been definitely ascertained, but is usually estimated at about 125,000.

Kirin lies on the west bank of the Sungari River, on an elevated plain or tableland that is surrounded by mountains. It is a walled town, though as the town lies somewhat above the river no protection is needed on that side and the wall extends around three sides only. This place was at first called Ch'uan-ch'ang, or "Shipyard," at the time when the Emperor K'anghi built vessels here for the transport of his troops. Small vessels for river traffic are still occasionally built at Kirin, and the river is used for transport to some extent, both by boats in the summer and by sledges in the winter. Supplies and stock for this winter traffic along the river are kept in pens that are built out on the ice under the city bluffs as soon as the river freezes over.

TRANSPORTATION ROUTES.

Before the advent of the railway in Manchuria all imports were brought up from Newchwang (Yingkow) over some 400 miles of a tedious and laborious trip by means of the long-distance two-wheeled cart drawn by seven ponies. Even after the Russians built their line from Harbin to Dalny the place was still 80 miles off the railway, and this distance had to be traveled by cart, and goods were to some extent still brought all the way up from Yingkow by cart. In October, 1912, the Chinese finally completed a railway connecting Kirin with Changchun, and one can now make the trip in $4\frac{1}{2}$ hours; it is curious to note that as yet only third-class tickets are sold, but two of these suffice for second-class accommodation, and three are required for first class. Even after the line was built the cart traffic competed with a fair measure of success, but during 1913 the Kirin-Changchun Railway increased the speed of its freight trains and otherwise improved its service, so that the amount of goods now hauled by cart between Changchun and Kirin is estimated to be less than one-fifth of that hauled by the railway, and with better service the railway will in time cut out the cart traffic between these two points as completely as it has for the longer distance from the coast.

RESOURCES OF DISTRICT.

In the southern part of Manchuria timber is scarce and has to be used very economically, so that its prodigal use at Kirin is one of the first things that impresses the eye of the visitor. Not only are great rafts of timber brought down the Sungari from the mountains to the southwest, but the slopes of the near-by mountains are heavily wooded. Compounds and vacant lots at Kirin are fenced in with great palisades of heavy timber 10 feet high, many of the streets are paved with heavy oak planks running from side to side, and much timber is used in building small boats, in making furniture, and in manufacturing the heavy-slabbed Manchu coffins, many of which are exported to other parts of the country. There is much valuable hardwood in the forests, and as transportation is so costly it has not been uncommon to see mahogany logs used for firewood.

The mountains are full of wild game, such as wolves, squirrels, otters, sables, leopards, tigers, and bears, and there is a large trade in skins and furs. Tanning is carried on at this place, and there is a large output of the native Chinese shoes. There is also a local production of chinaware, hardware, etc.

CITY OF KIRIN.

Kirin houses are built mostly of brick, with tiled roofs. Most of the streets are narrow and winding, some are macadamized, some laid with oak planks, some deep in mud. The station is some $1\frac{1}{2}$ miles outside the walled town, and the road leading in has been macadamized; this has led to some of the oak-paved streets being torn up, drained, and macadamized. The different industries of the town tend to group themselves along certain streets; thus one finds a street devoted to the piece-goods firms, another to the skin and fur trade, another to shoe makers and sellers, another to the coffin industry, another to chinaware, etc.

Some of the mercantile establishments in Kirin, especially those of the piece-goods firms, are not surpassed by any others in Manchuria. The wholesale piece-goods firms are denoted by tall poles along the street, and these usually have gilded representations of a dragon, a kangaroo, or some such figure, as well as elaborate carvings and banners. Each pole stands in front of a high brick wall, with a gate, over which is the firm's name in gilded letters on stone. Back of the wall is usually a large compound for the teams of customers from the country, then the main building of brick, with tiled roof, and back of this a substantially built warehouse containing the goods. The merchants in general do not carry as large stocks of cloth in these days of quick transportation facilities as they found necessary in the days of the long-distance cart.

There are only two consulates at Kirin, the Japanese and the Russian. The only foreign bank is the Yokohama Specie Bank, which has an agency in the Japanese consulate, but the Chinese Bank of Communications, as well as the Bank of China, are established here.

FIRMS ENGAGED IN FOREIGN TRADE.

The Standard Oil Co., Nobels Oil Co. (Russian), and the British-American Tobacco Co. have places of business in Kirin, but there are no foreign piece-goods firms with the exception of Mitsui Bussan Kaisha and the Kirin Trading Co., both Japanese. Most of the Chinese wholesale firms are financed and some of them owned by retired capitalists. The native banks lend little money on regular notes, but keep their money in circulation in handling shipments. Nowhere in Manchuria is the Manchu prominent in trade; in the south the business is mostly in the hands of Shantung men and in the north in the hands of Chihli men. The Shantung Province men are considered the shrewder merchants, and a few of them have established themselves in Kirin. Before their advent it was the policy of the Chihli Province merchants never to sell at a loss and to hold goods for months or even years until they could get out at a profit; the Shantung men came in and by sacrificing goods in times of depression to get their money free were able frequently to recoup themselves

and undersell the others, and this led to a change in the policy of many dealers.

The largest Chinese wholesalers handling cloth at Kirin are given as follows: Yuen Sheng Ching; Hung Sheng Ching; Hur Far Shang; Yuen Sheng Ho; Shing Suen How; Tien Ho Chang; Yung Hung Mow; Yung Sheng Tien; Gwang Hur Shing; Gee Shing Suen; Der Shing How; Ging Hur Hwei; Tien Tai Hung; Swe Sheng Cheng; Hung Tai How; Gwang Li How; Shing Suen Pei; E Hur Lung; E Hur Hung; Yu Suen Ho; Gin Shing Fu.

The first three listed still have agents in Shanghai, but the others have withdrawn their agents there and many of them have also withdrawn their agents at Yingkow (Newchwang), owing to their being able to save this expense by purchasing locally from Mitsui. They state that Shanghai demands hard cash; Newchwang gives credit, but payments have to be made on the quarterly settling days and the value of money fluctuates so sharply at that point that frequently they prefer to pay at the time of purchase rather than run the risk of speculative variations in the value of the money unsettling all their calculations. Mitsui, on the other hand, lands the goods in their warehouses and gives one to three months' time, and also usually requires only part payment, so that they can push the time along in a revolving credit arrangement. It takes a month or more to get American goods from Shanghai, while Japanese goods can be obtained in a week. Most of the piece-goods firms now handle Japanese goods almost entirely, some buying direct and some selling for Mitsui on the usual 2 per cent commission. Mitsui has a local office here, but does not carry large stocks, goods being ordered from stock at Dairen as required. A Japanese firm has recently started here under the name of the Kirin Trading Co., and frequently underbids Mitsui, which is stated to be due to the fact it brings in all its cloths through Antung.

LEADING FIRM HANDLING AMERICAN GOODS.

The firm of Yuen Sheng Ching, whose address is Pei Tar Kai, Kirin, and which is owned and financed by Niew Mur Chow, claims to be the largest piece-goods firm in the city and also the one that handles the most American cloth. The manager said that his firm handled some 700 bales out of a total of probably 1,200 bales of American cloth last year, but that in the same year Kirin used over 5,000 bales of Japanese cloth. He stated that there is undoubtedly much wealth in the ground near Kirin and that under the new régime many mines will eventually be opened, but that until the country people as a whole reached a much higher level of prosperity the demand would continue to be for cheap goods. He said that his firm had always handled American cloth and that this cloth was so satisfactory in quality that he was opposed to handling any Japanese sized goods, but asserted that the pressure of the cheaper goods was becoming too strong to withstand. Unless the Americans did something to combat the inroads of cheap Japanese cloths, he maintained, the American trade would dwindle to almost nothing.

The manager wanted to know, as did the larger merchants at Changchun, if the Americans could not start a more aggressive

campaign by cutting out Shanghai with its attendant extra expenses and selling through a local agent, either foreign or Chinese. He said that the campaign along this line started by Mustard & Co. (with the backing of Mr. Duke, of the British-American Tobacco Co.) might have been successful if they had worked it longer, but that they started out with the idea of selling for cash only and did not get in with the merchants because they would not cater to the established business customs of the local trade. He said that the price difference between the American and the Japanese cloths was frequently so great as to shut off trade in the better goods, and that while American cloths need not be brought down to the level of the Japanese something should be done to bring the prices somewhat closer together. He said if the American price could be reduced a live agent could exploit and much increase the American sales. His firm would like to get the agency for New York exporters, or preferably a group of American mills, handling the cloths most in demand here; his firm, he stated, was heavily backed and could give any financial guarantees desired. If the American prices were somewhat lowered, either by cutting out Shanghai expenses or in some other way, and the American manufacturers would ship goods on consignment his firm could handle goods in 100-bale lots of the most popular brands and would sell on 2 per cent commission and remit the proceeds; if the business picked up so as to warrant it they would be willing to shade their commission somewhat in proportion to the turnover. He stated that practically the only other firm handling American goods here now was Yuen Shuen Ho, but that others would prefer American goods if they saw their way to make a profit on them.

Of the American goods now sold in Kirin, the most popular are the "Horse and Dog," "Three Rabbits," "Three Birds on Drum," and "Cow and Straw" sheetings, and the "Flying Horse," "Centaur," and "Four Hawks" drills; about 70 per cent sheeting and 30 per cent drills. The American drills in particular were meeting strong competition from the Japanese and, in addition, jeans were being largely substituted for drills. He said that the most popular Japanese sheetings are the "Chinese Citrons" and the "Dragon C," both of which were selling better than the "Nine Dragons," but that numerous new chops were being introduced. The most popular Japanese drill was the "Geese," which the Japanese had been able to sell for the uniforms of soldiers and police, and which was lower in price than their "Dragon Head," which was nearer in quality to the American.

The Chinese wholesalers state that Mitsui sold in Kirin in 1913 probably 1,750,000 rubles' worth of cloth, though sales were somewhat curtailed by the boycott initiated from Changchun, which lasted for some months.

DESCRIPTION OF LEADING BRANDS.

The great bulk of the local cloth trade consists of grey sheetings, drills, and jeans, with a smaller trade in grey shirtings, white shirtings, Venetians, prints, etc. On the ordinary prints the Russians now dominate the market, their prints retailing at 800 to 900 cash per Chinese big foot. The most popular Japanese grey shirting is the Miye Mill's "Man and Spear" (the chop showing a Roman soldier

with helmet, armor, round shield, short sword, and spear); this is 36 inches wide, counts about 66 by 66 ends per inch, and weighs 12 pounds per 40-yard piece. The English grey shirtings are partly 38½-inch, 38½ yards, and partly 36-inch, 40 yards; they have hitherto dominated the market in this line, but are now being displaced by Japanese. The most popular white shirting is the English Reiss Bros. (Manchester) medium-starched "Round Dragon" chop (this shows a Chinese dragon curled up inside of a circle), which is 35 inches wide, counts about 68 by 60 ends per inch, and weighs 12 pounds per piece of 41½ yards. The most popular Japanese white shirting is the "Saint and Boys" chop, which is 35¾ inches wide, counts about 73 by 64 ends per inch, and weighs 11½ pounds per 40-yard piece. Mitsui was selling this at Kirin on February 19, 1914 at 7.70 rubles. An inferior "Two Fish" white shirting was being sold at 5.80 rubles.

FLUCTUATIONS IN PRICES.

The merchants state that the business and consumption taxes amount to 3 per cent on their gross sales. The charge for storage in warehouses is usually 20 kopecks per bale, no account being taken of the length of time stored.

On February 19, 1914, the Chinese wholesalers illustrated the usual range of distribution prices by saying that they were buying the Japanese "Dragon C" sheeting from Mitsui's local agent at 5.10 rubles (\$2.54) per piece of 40 yards and were selling wholesale at 54,300 tiaos (\$2.646), while the retailers were selling at 60,000 tiaos (\$2.923). This shows a margin of about 5 per cent for the profit and expenses of the wholesaler and about 10 per cent for that of the retailer, but the margins vary, not only according to the goods, but also from day to day. The merchants watch each other's trade closely, and a new quotation by any wholesaler is promptly reported by runners attached to other firms. Quotations continually fluctuate according to the vagaries of supply and demand and temporary popularity, and the margins on any cloth chop and its relative price may vary widely on different days.

The wholesale merchants at Kirin buy from Mitsui in gold rubles and sell in either tiaos or small coin dollars, the tiaos being most largely quoted in both wholesale and retail sales.

On February 19, 1914, the local exchange rates showed 10.570 tiaos to the gold ruble, 7.880 tiaos to the dollar of Kirin small coin silver, and 13.600 tiaos to the ounce of Sycee hard silver. The values of the respective currencies, as well as the exchange rate, as compared with the Yingkow transfer tael and other outside monies, fluctuate even more rapidly than do the cloth prices, so that in buying and selling the merchants have to consider the value of the respective mediums of exchange as quoted for spot or future sales as much as they do the spot and future quotations on the cloths.

QUOTATIONS FOR LEADING CHOPS.

On February 19, 1914, one of the largest merchants gave the whole-sale prices at which he was selling some of the main chops as follows, in tiaos per piece:

	Wholesale selling price.			Wholesale selling price.	
	Tiaos.	United States currency.		Tiaos.	United States currency.
American sheetings:			Japanese sheeting—Contd.		
Horse and Dog	72.000	\$3.508	Nine Dragons	55.500	\$2.704
Three Rabbits	72.000	3.508	Peaches and Pot	55.200	2.690
Three Birds on Drum	52.000	2.534	Man and Elephant	54.000	2.631
Cow and Straw	55.000	2.680	Two Dragons	54.000	2.631
Buck's Head	80.000	3.898	Three Chickens	55.000	2.680
Dog's Head in Circle	80.000	3.898	Three Sheep	54.600	2.660
Running Wolf	56.000	2.728	Butterfly in Triangle	54.000	2.631
Man, Horse, and Bow	76.000	3.703	Bird (Tokyo)	53.500	2.607
American drill:			Japanese drill:		
Two Rabbits	72.000	3.508	Geese	61.000	2.972
Flying Horse	75.000	3.654	Phoenix	61.000	2.972
Man, Horse, and Bow	76.000	3.703	Litaibai	68.000	3.313
Dragon	77.000	3.752	Dragon Head	70.000	3.411
Japanese sheeting:			Elephant in Star	71.000	3.459
Chinese Citrons	60.000	2.923			
Dragon C.	54.300	2.646			

The wholesalers were buying the “Tea Carrier” Indian cotton yarn No. 10 from Mitsui at 129 rubles per bale of 400 pounds; also Japanese yarns as follows: “Blue Fish” No. 16, 142 rubles; “Standing Horse” No. 16, 140 rubles; “Rising Sun” No. 32/3, 160 rubles; “Rising Sun” No. 42/2, 200 rubles, per bale of 400 pounds.

Prices on nankeen varied not only according to the width and construction, but according to the maker. The following description of four samples gives an idea of the usual types and the prices in pieces of 60 Chinese feet (24 yards):

- (1) 17³/₄-inch, 834 ends in warp, about 46 by 46 ends per inch, 11s warp and 12s weft approximately, at 25.440 tiaos (\$1.24).
- (2) 16³/₄-inch, 674 ends in warp, 40 by 36, 11s warp and 9s weft approximately, at 24.000 tiaos (\$1.169).
- (3) 16¹/₂-inch, 528 ends warp, 32 by 27, 8s warp and 7s weft approximately, at 23,520 tiaos (\$1.146).
- (4) 16¹/₄-inch, 490 ends warp, 30 by 28, 8s warp and 9s weft approximately, at 21.500 tiaos (\$1.052).

In general this coarse Chinese nankeen and the similar Japanese nankeen, all hand woven, were selling at relatively higher prices than the closer-woven sheetings made on the power loom. The 16 to 18 inch nankeen retailed at 4¹/₂ to 5¹/₂ cents United States currency per yard, as compared with 7¹/₂ to 11 cents for the 36-inch Japanese and American sheeting.

MANCHURIAN COTTON MILLS.

Manchuria affords an important market for large quantities of foreign cotton manufactures and also for hand-woven nankeen from the Yangtze Valley section of China. Only a very small pro-

portion of its requirements in this line have been made at home, and these only by hand. Recently, however, some of the more intelligent natives have begun to inquire why cotton goods should not be made in Manchuria itself with the assistance of the cheap local labor. Three small establishments have been started with power looms, and it is possible that in time cotton manufacturing may become an industry of some importance. The output from this source is now too small to have any effect on the market, but it is worth noting as an indication of what it may become in the future.

A small amount of local cotton, short stapled and harsh, is now raised in Manchuria. A trifle of this is used locally by being hand spun into yarn for the hand looms and a larger portion is used for wadding, but the bulk is exported, mainly to Japan. As yet none is spun on machinery in the country, and the yarn for the three small-weave sheds, as well as the great bulk of the yarn used by the hand-loom weavers, is imported. The coarsest counts, under 16s, are mainly from India, while from 16s upward they are mainly from Japan. The principal number used in Manchuria is 16s single.

On January 1, 1914, the three weave sheds in Manchuria were as follows: Mukden, 30 looms on sheeting; Liaoyang, 16 looms on sheeting and 8 on nankeen; Newchwang, 20 looms on nankeen. This shows a total of 74 power looms now in operation in Manchuria. The mill at Newchwang operates 36 hand looms in a shed near its 20 narrow power looms. A few details as to these mills follow.

MUKDEN MILL.

The largest cotton mill in Manchuria is located at Mukden and contains 30 power looms, made in Japan and stamped "1910," which is the year in which the mill started. The mill is located just inside the north gate and inside of a high-walled compound. The weave shed is of brick, with glass windows, wood floor, and wood columns and rafters. The motive power consists of a small boiler and a 15-horsepower engine of Japanese make.

The yarn is bought locally from Japanese dealers and comes in 10-pound bundles put up in 400-pound bales. The warp skeins are dipped in sizing and then dried on a framework in the yard. The weft is put on swifts and wound by machinery on 6-inch bobbins, while the warp, after sizing, is put on swifts and wound on spools. The spools are put on a V-shaped creel and wound on loom beams. After weaving the cloth is folded by hand and sold in the loom condition without calendering.

About 50 operatives are employed. Weavers run two looms each. The speed was stated by the manager as 180 picks per minute, but is rather irregular. The mill is lighted with oil lamps and operates from 6.30 a. m. to 7 p. m., with a 30-minute stop for lunch; this gives an effective working day of 12 hours. There is no night work, but the only stops are on the 1st and 15th of the month. Some of the weavers are paid by the day, but the more skilled ones by the 40-yard cut—15 cents small coin (equal at the exchange rate of February 26, 1914, to about 5.61 cents United States currency) per cut. The best weavers make as high as 15 cents a day.

This mill makes one class of sheeting, which is nominally 36 inches wide, with 1,700 ends total in the warp. The warp is 14s and

the weft 16s, and the cloth is woven with 40 picks per inch. The manager gave the weight as 9 catties 4 ounces, which, as the Mukden catty is only 1.225 pounds, would make it about $3\frac{1}{2}$ yards per pound, but this varies according to the regularity obtained from the rough method of hand sizing in the skein. The chop is the "Two Flags" and consists of two five-barred flags of the Chinese Republic, and underneath this in English lettering is "Manufactured by Kwang Yie Association" "40 yds." "dashimenli Moukden." Dashimenli means inside the North Gate.

This mill sold over 10,000 pieces of sheeting in 1913. The owners state that they can sell all of their production locally as fast as they make it, except in the fifth month (June) and sometimes in December, when they have to carry small stocks for a while. Local cotton is unfit for counts above 16s, so this mill, as the others, uses only imported yarn, which is mostly Japanese. No. 16 cotton yarn in February, 1914, was being bought by this mill from local Japanese dealers at \$140 small coin per 400-pound bale. The cloth was being sold locally at \$6.30 small coin per 40-yard cut, as against \$6.70 small coin for the Japanese "Nine Dragons." The latter was given as weighing 11 catties a cut, but the manager stated that after scouring it weighed only about 9 catties.

The manager stated that the enterprise is a profitable one and that as soon as they can get their help better trained they expect to expand. He also stated that the method of sizing in the skein by hand gave such irregular results that he was trying to find a simple and cheap machine that would permit sizing and drying in the warp by machinery. Owing to the method of sizing used the cloth is somewhat rougher than Japanese cloth, and the weaving is also inferior to that from the larger Japanese mills, where the help is more skilled.

LIAOYANG MILL.

The Liaoyang mill is owned by the Kwang Yei Association that operates the Mukden mill. It contains a total of 24 power looms of Japanese make, of which 8 are narrow looms for nankeens and 16 wider looms for sheeting. The sheeting is similar to that made at Mukden, but has a stork as the chop.

The production of this mill during 1913 was stated as 6,500 cuts of 36-inch sheeting, 40 yards each; and 4,500 pieces of nankeen about 17 inches wide and about 30 Chinese big feet long.

NEWCHWANG MILL.

The Newchwang mill contains 20 power looms for weaving the narrow nankeen and 36 hand looms for making 36-inch sheeting. The power looms and the hand looms are in separate buildings.

The building for the power looms is of brick lined inside with mud, the floor is of packed mud, the posts and rafters are round poles, and the rafters are covered with matting, over which are rough tiles; the windows are of oiled paper. The motive power is furnished by a small boiler of native manufacture and a small engine from Japan. The building is lighted by suspended oil lamps.

Yarn is bought from local Japanese dealers and roughly sized and dried in the skein by hand. From the skein the warp yarn is wound

on spools and the weft yarn on bobbins by machinery. The spools are placed in a V-shaped creel and the ends run together through a reed onto a beam and then drawn in and sent to the loom. Each weaver operates two looms at a speed of about 170 picks per minute. The output is entirely narrow nankeen, about $17\frac{1}{2}$ inches wide, which is sold locally in competition with similar nankeen made on hand looms in Japan and central China.

The building for the hand looms is some 20 feet wide by about 60 feet long and has a small office and baling room partitioned off at one end. The looms rest on a packed mud floor and the building is constructed like the one for power looms. The yarn is bought from local Japanese dealers and roughly sized and dried in the skein by hand. Young apprentice boys squatting on a mud embankment that extends along one side of the main room of the mill wind the weft skeins from a rough swift or ryce onto a horizontal spindle. The boy turns the swift by means of a handle, and a connecting cord rotates the spindle and winds up the yarn. The warp yarn is in the same manner wound from the skein onto double-headed bobbins and these are stuck on spikes on a sloping creel. The ends from this creel are drawn together through a reed about a foot wide and then wound together in a narrower space on a big horizontal "mill". This mill is some 5 feet in diameter and is rotated by hand. The mill is rotated a certain number of times to get a fixed length of warp, when the warp is cut and tied; another section of the warp is then run on beside the first and is cut when the same length has been reached; this operation is continued until the mill contains the full number of ends desired in the warp. A loom beam is then set in a support on the other side of the mill, all of the ends tied to this and the beam rotated until all of the sections have been run on to it together in one broad sheet. This beam is then drawn in and sent to the loom.

The looms are constructed almost entirely of wood. They have overhung lay and use double harness made of twine with metal eyelets for the warp threads. The weaver operates the treadles that move the harness by means of his feet and with his left hand pulls the lay back and forth while with his right he pulls the cord that jerks the pickers alternately and causes the shuttle to be thrown back and forth through the web. A hinged stick is used to keep the cloth out to width and is moved up nearer the fell every few minutes when the cloth woven is wound up on the sand roller. I timed some of the looms and found them making 110 to 120 picks when in full operation. The mill usually starts at 5 o'clock and runs as late as the light permits; in the summer the more experienced weavers get off a 40-yard cut a day.

Last year this mill, starting with 14 looms and ending with 36, made altogether about 8,000 pieces of sheeting and this year expects to turn out about 10,000. The owner said that his sheeting usually sold on the local market at 1.50 taels (Newchwang) per piece below the price of the American "Three Rabbits."

The mill makes one quality of sheeting. The mill first stamped its cloth as "Buck's Head Sheeting" in imitation of the well-known American chop, but now uses a trade-mark showing three spotted horses (known as the "Three Ponies" chop) and underneath this in

English lettering "Chin Ho Mills," with "40" in a circle at the bottom. This cloth is about 35 inches wide and has 1,610 ends total in the warp. The picks are, of course, very variable but average about 50 per inch. The yarns used are 14s warp and 16s weft. The system of skein sizing is very irregular so that the weight of the finished cloth varies but seems to average about $3\frac{1}{2}$ yards to the pound.

The number of operatives varies but is usually about 60, of whom 36 are weavers with one loom apiece. Some of the more important operatives on contract work make as high as 40 cents small coin a day. The weavers are paid 30 cents small coin (at exchange rate of February 10, 1914, this is equal to about $11\frac{1}{2}$ cents United States currency), per piece, and average about 9 cents American a day. The boy apprentices for reeling from the skein to the bobbin are paid \$10 small coin (say, \$3.84 United States currency) a year, but in addition the owner furnishes them a sleeping place and their "chow" (food), the owner saying that chow costs him about \$36 small coin each a year. These boys are very young, some seemingly not much over 8 years of age, and they work under 3 years' contract.

LIST OF SAMPLES.

Sample 1.—"Nine Dragons" (in Japanese, "Kiu Riu") grey sheeting, made by Kanegafuchi Boseki; sold as 36-inch sheeting, but usually measures about $36\frac{3}{4}$ inches in width; 1,644 ends total in warp; woven with 44 ends of 13s and 44 picks of 16s per square inch; weighs $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.76 yen per piece, or 5.93 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.125 yen per piece, or 6.38 cents per yard. This is the leading cloth exported from Japan, though it is sold under several other chops besides that of the Nine Dragons.

Sample 2.—"Two Dragons" (in Japanese, "So Riu") grey sheeting, made by Kanegafuchi Boseki, is Nine Dragons sheeting under another chop. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.70 yen per piece, or 5.85 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5 yen per piece, or 6.23 cents per yard.

Sample 3.—"Butterfly in Triangle" (in Japanese, "Sankaku Cho") grey sheeting, made by Kanegafuchi Boseki, is Nine Dragons sheeting under another chop. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.70 yen per piece, or 5.85 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.05 yen per piece, or 6.29 cents per yard.

Sample 4.—"Man and Elephant" grey sheeting, made by Kanegafuchi Boseki, is Nine Dragons sheeting under another chop. On February 24, 1914, the local agency of Mitsui was selling to Chinese wholesalers at Mukden at 5.05 yen per piece, or 6.29 cents per yard.

Sample 5.—"Three Sheep" grey sheeting, made by Kanegafuchi Boseki, is Nine Dragons sheeting under another chop. On February 26, 1914, the local agency of Mitsui was selling to Chinese wholesalers at Mukden at 5.20 yen per piece, or 6.48 cents per yard.

Sample 6.—"Dragon C" (in Japanese, "Riu C") grey sheeting, made by Miye Boseki; 36 inches wide; 44 by 44 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.725 yen per piece, or 5.88 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.075 yen per piece, or 6.32 cents per yard. This cloth is the rival of the Nine Dragons as the leading Japanese sheeting sold in Manchuria.

Sample 7.—"Rooster in Circle" (in Japanese, "Maru Tori") grey sheeting, made by Osaka Boseki; 36 inches wide; 44 by 42 construction; 14 pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.725 yen per piece, or 5.88 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.075 yen per piece, or 6.32 cents per yard. Mainly exported to North China; very small sale in Manchuria.

Sample 8.—"Dragon Head" (in Japanese, "Riu") drill, made by Miye Boseki; actually about $29\frac{3}{4}$ inches wide; 72 by 48 construction; 14 pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5.80 yen per piece, or 7.22 cents per yard; wholesale price to home trade, with textile consumption tax paid, 6.18 yen per piece, or 7.7 cents per yard. This is the best drill made in Japan, and has a large export to various parts of China, including Manchuria.

Sample 9.—"Bats" (in Japanese, "Komori") drill, made by Osaka Boseki; $30\frac{1}{4}$ inches wide; 72 by 46 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5.60 yen per piece, or 6.97 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.97 yen per piece, or 7.43 cents per yard.

Sample 10.—"Ritaihaku" (name of sairt) drill, made by Osaka Boseki; 30 inches wide; 70 by 48 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5.60 yen per piece, or 6.97 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.97 yen per piece, or 7.43 cents per yard.

Sample 11.—"Elephant" (in Japanese, "Zo") drill, made by Osaka Boseki; actually about $29\frac{3}{4}$ inches wide; 60 by 40 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5.05 yen

per piece, or 6.29 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.40 yen per piece, or 6.72 cents per yard. Sold to North China.

Sample 12.—"Pair of Geese" (in Japanese, "Gacho") drill, made by Miye Boseki; 30 inches wide; 60 by 40 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5 yen per piece, or 6.23 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.30 yen per piece, or 6.6 cents per yard. This drill has a very large export to various parts of China, including Manchuria.

Sample 13.—"Phoenix" (in Japanese, "Hoo") drill, made by Fuji Gas mill; actually about $30\frac{1}{2}$ inches wide; 60 by 42 construction; $13\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 5.075 yen per piece, or 6.32 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.40 yen per piece, or 6.72 cents per yard.

Sample 14.—"Shibakuki" (name of Japanese plant) drill, made by Fuji Gas mill; is second quality of Hoo. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.95 yen per piece, or 6.16 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.30 yen per piece, or 6.6 cents per yard.

Sample 15.—"Lion" (in Japanese, "Shishi") drill, made by Osaka Boseki; actually about $29\frac{3}{4}$ inches wide; 60 by 36 construction; $12\frac{1}{2}$ pounds per 40-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 4.90 yen per piece, or 6.10 cents per yard; wholesale price to home trade, with textile consumption tax paid, 5.25 yen per piece, or 6.53 cents per yard.

Sample 16.—"Elephant in Star" drill, made by Temma Orimono; actually $29\frac{1}{2}$ inches wide; 70 by 48 construction; $13\frac{1}{2}$ pounds per 40-yard cut. At Changchun February 21, 1914, the local agency of Mitsui was selling to the Chinese wholesalers at 6.40 rubles per piece, or 8.24 cents per yard.

Sample 17.—"Stag's Head" jean, bearing name of Alfred Dent & Co. of Shanghai; made by Richard Haworth & Co., Manchester; 29 inches wide; 2,746 ends total in warp; woven 93 by 64; $8\frac{1}{2}$ pounds per 30 yards. At Newchwang February 15, 1914, the Chinese wholesalers were selling at 5.20 transfer taels per piece, or 8.33 cents per yard.

Sample 18.—"Three Stags' Heads" jean, made by Richard Haworth & Co., Manchester, in their Throstle Nest Mills; $29\frac{1}{2}$ inches wide, 2,746 ends per inch; woven 93 by 64; $8\frac{1}{2}$ pounds per 30-yard cut. At Newchwang February 15, 1914, the Chinese wholesalers were selling at 5.80 transfer taels per piece, or 9.27 cents per yard.

Sample 19.—"World, John Bull, Chinaman" jean, made by Richard Haworth & Co., Manchester, in their Throstle Nest Mills; $29\frac{1}{2}$ inches wide; 2,746 ends total in warp; woven 93 by 64; about $11\frac{1}{2}$ pounds per 40-yard cut. In Newchwang February 15, 1914, the Chinese wholesalers were selling at 7.60 transfer taels per piece, or 9.12 cents per yard.

Sample 20.—"Beaver" jean, bearing name of Ward, Probst & Co., Shanghai; of English manufacture; about 29 inches wide; 2,560 ends total in warp; woven 88 by 60; $8\frac{1}{2}$ pounds per 30 yards. At Mukden February 26, 1914, the Chinese wholesalers were selling at 6.70 small coin dollars per piece, or 8.35 cents per yard.

Sample 21.—"Deer and Bat" jean, made by Kanegafuchi Boseki; $29\frac{1}{2}$ inches wide; 2,782 ends total in warp; woven 93 by 64; $8\frac{1}{2}$ pounds per 30-yard cut. On February 24, 1914, Mitsui quoted price c. i. f. Dairen (without customs duty) as 4.40 yen per piece, or 7.3 cents per yard. Finest jeans made in Japan.

Sample 22.—"Elephants and Pagoda" jean, made by Temma Orimono; actually about $29\frac{7}{8}$ inches wide; 93 by 60 construction; 30-yard cuts. At Changchun February 21, 1914, the local agency of Mitsui was selling to Chinese wholesalers at 5.15 rubles per piece, or 8.84 cents per yard.

Sample 23.—"Peony" (in Japanese, "Botan") T cloth, made by Miye Boseki; 31 inches wide; 1,904 ends total in warp; woven 58 by 52; 6 pounds per 24-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 2.785 yen per piece, or 5.78 cents per yard; wholesale price to home trade, with textile consumption tax paid, 2.99 yen per piece, or 6.2 cents per yard.

Sample 24.—"Gold Fish" (in Japanese, "Kin Gio") T cloth, made by Osaka Boseki; 31 inches wide; 1,584 ends total in warp; woven 48 by 44; 5 pounds per 24-yard cut. Wholesale price in Osaka January 6, 1914, for export, free of textile consumption tax, 2.36 yen per piece, or 4.9 cents per yard; wholesale price to home trade, with textile consumption tax paid, 2.50 yen per piece, or 5.19 cents per yard.

Sample 25.—"Sparrows" (in Japanese, "Tsubame") print cloth, made by Miye Boseki; 31 inches wide; woven 60 by 60; $16\frac{1}{2}$ pounds per 120-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 10.45 yen per piece, or 4.34 cents per yard.

Sample 26.—"Eggplant" (in Japanese, "Nasu") print cloth, made by Amagasaki Boseki; actually $30\frac{3}{4}$ inches wide; 60 by 58 construction; $16\frac{1}{2}$ pounds per 120-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 10.45 yen per piece, or 4.34 cents per yard.

Sample 27.—"Wagtail" (in Japanese, "Sekirei") gray shirting, made by Kanegafuchi Boseki; $44\frac{4}{5}$ inches wide; woven with 88 ends of 57s warp and 80 picks of 46s weft per square inch; 9 pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 5.65 yen per piece, or 6.12 cents per yard.

Sample 28.—Gassed "Sekirei" grey shirting, made by Kanegafuchi Boseki; is same make as sample No. 27, but of gassed yarns, which reduces weight to 8 pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 8.05 yen per piece, or 8.73 cents per yard. This is one of the finest shirtings made in Japan.

Sample 29.—"Eggplant" (in Japanese, "Nasu") grey shirting, made by Amagasaki Boseki; $44\frac{4}{5}$ inches wide; woven with 68 ends of 36s warp and 72 picks of 45s weft per square inch; 9 pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 7.50 yen per piece, or 8.12 cents per yard. This is very popular and commands the highest price of its kind.

Sample 30.—"Woman Diver" (in Japanese, "Kai Jo") grey shirting, made by Amagasaki Boseki; $44\frac{4}{5}$ inches wide; 72 by 72 construction; 9 pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 5.63 yen per piece, or 6.1 cents per yard.

Sample 31.—"Weaving Goddess" (in Japanese, "Ori Hime") grey shirting, made by Osaka Boseki; $44\frac{4}{5}$ inches wide; 58 by 58 construction; $9\frac{1}{2}$ pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 5.45 yen per piece, or 5.9 cents per yard.

Sample 32.—"Peony" (in Japanese, "Botan") grey shirting, made by Miye Boseki; $44\frac{4}{5}$ inches wide; 60 by 54 construction; $9\frac{1}{2}$ pounds per 46-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 5.425 yen per piece, or 5.87 cents per yard.

Sample 33.—"Hawk" (in Japanese, "Taka") grey shirting, made by Osaka Boseki; $44\frac{4}{5}$ inches wide; 58 by 58 construction; 8.7 pounds per 45-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 4.78 yen per piece, or 5.29 cents per yard.

Sample 34.—"Red Geese" (in Japanese, "Aka Gacho") grey shirting, made by Miye Boseki; $44\frac{4}{5}$ inches wide; 54 by 54 construction; $8\frac{1}{2}$ pounds per 45-yard cut. Wholesale price in Osaka January 6, 1914, to home trade, with textile consumption tax paid, 4.70 yen per piece, or 5.2 cents per yard.

Sample 35.—"Cow" grey sheeting, made by Kung Yik Mills, Shanghai, 36 inches wide; 1,684 ends total in warp; 46 by 46 construction; 15 pounds per 40-yard cut. At Changchun, February 21, 1914, the Chinese wholesalers were paying 123 roubles per bale, or 7.92 cents a yard.

Sample 36.—"Ram's Head" grey sheeting, made by Kung Yik Mills, Shanghai; $35\frac{1}{2}$ inches wide; 1,676 ends total in warp; 46 by 46 construction; $14\frac{1}{2}$ pounds per 40-yard cut. At Changchun, February 21, 1914, the Chinese wholesalers were paying 116 roubles per bale, or 7.47 cents a yard.

Sample 37.—"Saddled Horse in Circle" grey sheeting, made by Kung Yik Mills, Shanghai; 36 inches wide; 1,676 ends total in warp; 46 by 46 construction; $13\frac{1}{2}$ pounds per 40-yard cut. At Changchun, February 21, 1914, the Chinese wholesalers were paying 108 rubles per bale, or 6.95 cents per yard.

Sample 38.—"Griffin" (or "Flying Dragon") grey sheeting, made by Kung Yik Mills, Shanghai; 36 inches wide; 1,676 ends total in warp; 46 by 46 construction; 10 pounds per 40-yard cut. At Changchun, February 21, 1914, the Chinese wholesalers were paying 95 rubles per bale, or 6.12 cents a yard.

Sample 39.—"Two Flags" grey sheeting, made on power looms at local mill of Kwang Yei Association at Mukden, Manchuria. About $36\frac{1}{2}$ inches wide; 1,700 ends total in warp; woven with 46 ends of 14s warp and 40 picks of 16s weft; weighs, approximately $3\frac{1}{2}$ yards per pound. On February 26, 1914, this mill was selling at 6.30 small coin dollars per piece, or 5.89 cents a yard.

Sample 40.—"Three Ponies" grey sheeting, made on hand looms at local Chin Ho mills at Newchwang, Manchuria; about 35 inches wide; 1,610 ends total in warp; woven with 46 ends of 14s warp and approximately 50 picks of 16s weft per square inch; weighs approximately $3\frac{1}{2}$ yards per pound. On February 15, 1914, this mill was selling at 5.20 transfer taels per piece, or 6.25 cents per yard.

Sample 41.—Chinese hand-woven nankeen, in grey; $17\frac{3}{4}$ inches wide; 834 ends total in warp; 46 by 46 construction; warp about 11s and weft about 12s. At Kirin,

Manchuria, on February 19, 1914, retailed at 25.440 tiaos per piece of 60 Chinese feet, or 5.16 cents per yard.

Sample 42.—Chinese hand-woven nankeen, in grey; $16\frac{3}{4}$ inches wide; 674 ends total in warp; 40 by 36 construction; warp about 11s and weft about 9s. At Kirin, Manchuria, on February 19, 1914, retailed at 24.000 tiaos per piece of 60 Chinese feet, or 4.87 cents per yard.

Sample 43.—Chinese hand-woven nankeen, in grey, $16\frac{1}{2}$ inches wide; 528 ends total in warp; 32 by 27 construction; warp about 8s and weft about 7s. At Kirin, Manchuria, on February 19, 1914, retailed at 23.520 tiaos per piece of 60 Chinese feet, or 4.77 cents a yard.

Sample 44.—Chinese hand-woven nankeen, in grey; $16\frac{1}{4}$ inches wide; 490 ends total in warp; 30 by 28 construction; warp about 8s and weft about 9s. At Kirin, Manchuria, on February 19, 1914, retailed at 21.600 tiaos per piece of 60 Chinese feet, or 4.39 cents per yard.

Sample 45.—Japanese hand-woven nankeen (in Japanese, ‘‘shiro momen’’), bleached; 9 sun, or 13.43 inches, wide; 42 by 40 construction. In January, 1914, a piece of 25-shaku length (cloth shaku of $14\frac{1}{2}$ inches) retailed at 68 sen, or 33.86 cents, which is 3.27 cents per yard, in Kobe.

Sample 46.—Japanese hand-woven nankeen, bleached, 8 sun, or 11.93 inches, wide; 432 ends total in warp; 36 by 32 construction. In January, 1914, a piece of 25 shaku retailed at 34 sen, which is 1.63 cents per yard, in Kobe.

Sample 47.—Light honeycomb-woven bedspread, white, with blue stripes near ends and borders; made by Wakayama Boseki; has a good sale in Manchuria; 45 inches wide by 70 inches long.

Sample 48.—Cloth socks worn by men in Japan; dyed blue; 34 sen, or 16.93 cents, per pair at retail in Kobe. These socks are the only foot covering used by Japanese in the house but are worn with clogs when out of doors.

Sample 49.—Cloth socks worn by women in Japan; white; 20 sen, or 9.96 cents per pair at retail in Kobe.

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